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NOVEMBER-DECEMBER 2001

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PROGRAM MANAGER



FACILITIES ENGINEERING ACQUISITION CAREER FIELD

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Foreign Military Sales (FMS) Reinvention in the Department of the Navy

The Deputy Director, Navy International Programs Office (IPO), relates how Navy IPO is turning ideas on FMS Reinvention into action, breaking down bureaucratic barriers, and finding accurate measures of performance.



*Gibson G. "Gib" LeBoeuf
Deputy Director
Navy International Programs Office*



*Navy Rear Adm. (Sel) Paul Sullivan
Program Manager, Virginia Class Attack Submarine (PMS 450)*

PROGRAM MANAGER

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Some photos appearing in this publication may be digitally enhanced.

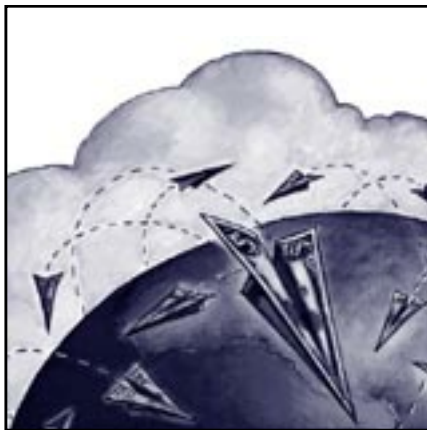


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Foreign Military Sales Reinvention in the Department of the Navy

Gibson LeBoeuf

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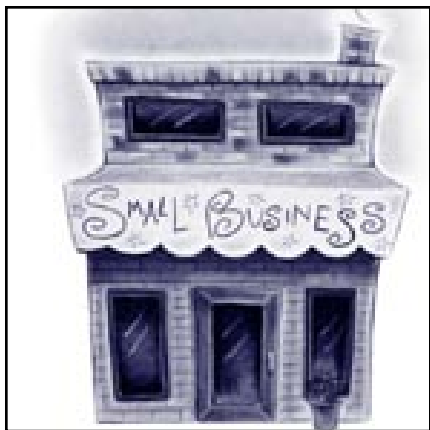


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Correction

On pp. 19-20 of the July-August 2001 issue of *Program Manager*, Congressman John P. "Jack" Murtha was incorrectly identified as a Republican from Pennsylvania. Congressman Murtha is a Democrat from Pennsylvania.

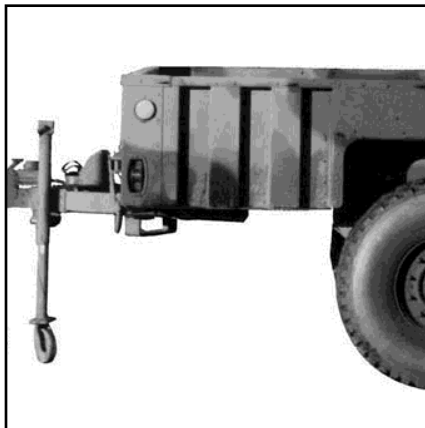


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Virginia Class Attack Submarine – On Track to Deliver in 2004

Program Manager Interviews Navy Rear Adm. (Sel) Paul Sullivan

COLLIE J. JOHNSON

In the world of military program managers, Navy Rear Adm. (Sel) Paul Sullivan is an anomaly. In fact, he may just be one of the Navy's longest serving program managers. Where most military program managers serve three to four years, Sullivan has now been an ACAT I program manager for six years. He has managed the Virginia Class Attack Submarine project for three years. And before that, he managed the canceled *Seawolf* project for three and a half years. That's six years of managing an ACAT I program – years filled with briefings, milestones, negotiations, contract management, reporting, budgeting, scheduling, and testing – years that ultimately add up to a whole lot of unrelenting pressure and stress.

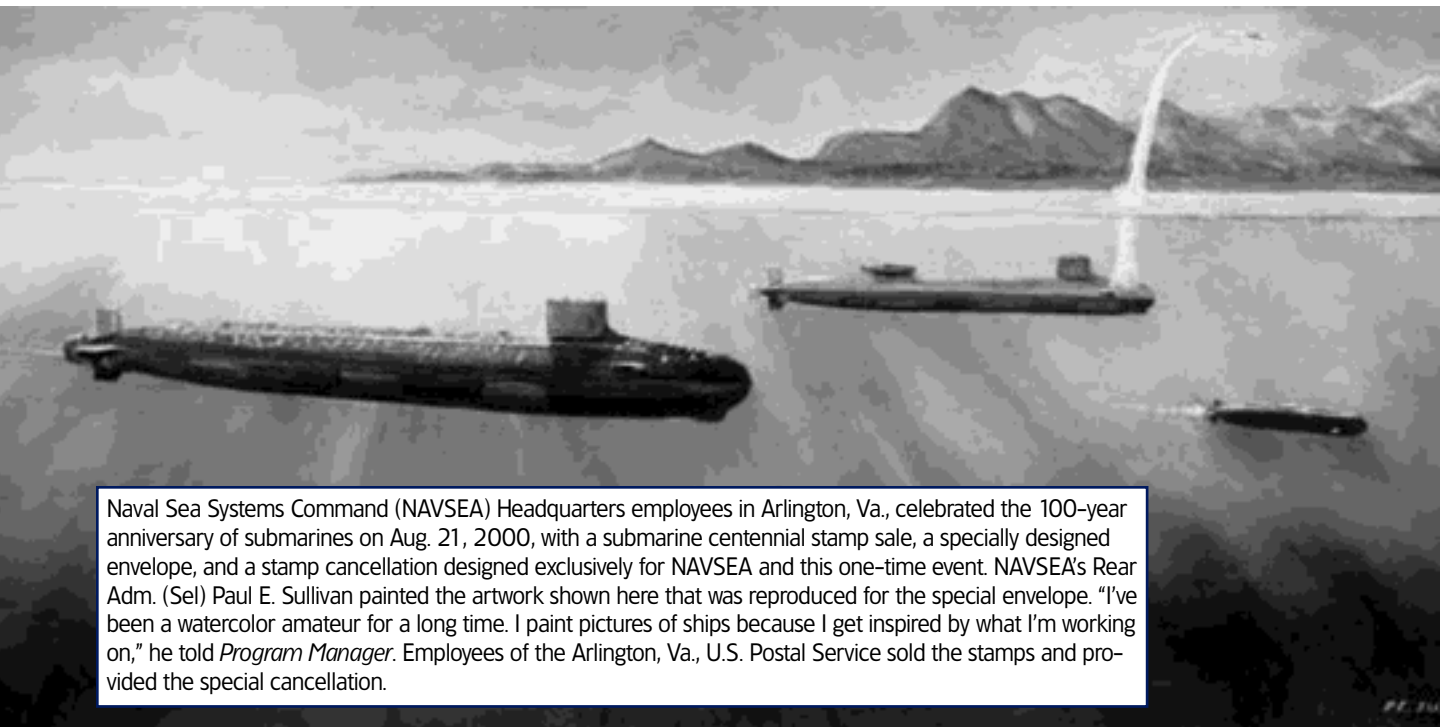
The Right Man for the Right Job

A look at his bio, however, reveals why DoD has left him on the job for so long. He's probably the best qualified man in the nation to manage the design and construction of what will surely become the world's most advanced attack submarine. A graduate of the Massachusetts Institute of Technology (MIT), with a master's in Naval Architecture and Marine Engineering and the advanced degree of Ocean Engineer, DoD nominated and sponsored Sullivan as an Associate Professor of Naval Architecture at MIT. There he taught the Naval Ship Design sequence of courses, and supervised numerous Navy students in their ship design projects and thesis work.

Johnson is managing editor, Program Manager Magazine, Defense Acquisition University, Fort Belvoir, Va.



“The combat system [of the Virginia Class] is impressive. Instead of having stand-alone or federated subsystems that may or may not talk to each other, we actually have 23 subsystems on this ship that all talk to each other over a wide area network. We’ve never done that on a submarine before.”



Naval Sea Systems Command (NAVSEA) Headquarters employees in Arlington, Va., celebrated the 100-year anniversary of submarines on Aug. 21, 2000, with a submarine centennial stamp sale, a specially designed envelope, and a stamp cancellation designed exclusively for NAVSEA and this one-time event. NAVSEA's Rear Adm. (Sel) Paul E. Sullivan painted the artwork shown here that was reproduced for the special envelope. "I've been a watercolor amateur for a long time. I paint pictures of ships because I get inspired by what I'm working on," he told *Program Manager*. Employees of the Arlington, Va., U.S. Postal Service sold the stamps and provided the special cancellation.

Soon to be promoted, Sullivan has been assigned as the Deputy Commander for Integrated Warfare Systems, Naval Sea Systems Command. He leaves his successor, Navy Capt. John Heffron, a program that is on track, reasonably on cost, and on schedule.

How did he do it? By taking the lessons learned from another vessel, the *Seawolf*, which was discontinued after production of only three ships; expanding on its design, maximizing stealth, surveillance capabilities, and special warfare enhancements; and managing design and construction of a new, affordable yet potent submarine that is on track to deliver in 2004.

He would tell you any success he's enjoyed is due to endurance and being forthright enough to "tell it like it is." But that's only part of the story. His success is due in no small part to the fact that he is, quite simply, the right man, at the right time, in the right place, for the right job.

Program Manager recently interviewed Sullivan to bring our readers the program management perspective on a project that will affect how the Department of Defense conducts submarine operations and warfare for years to come.

Q

Before the Virginia Class, you were building an advanced attack submarine called the Seawolf – a program you also managed. Why was the Seawolf canceled?

A

The *Seawolf* was canceled due to very high cost. It was a very good submarine; I was the *Seawolf* program manager before I was the *Virginia* program manager, so I'm partial to that ship too. But, the *Seawolf* was cancelled in an era where the Soviet Union was putting out a new class of submarine almost every year, and their "quieting" was getting markedly better very rapidly. At that point, in the early '80s when the *Seawolf* program was put together, they had almost 400 submarines. The *Seawolf* was to go through, search at a very high rate of speed, and go after their SSBNs and their *Bastions*.

When that mission became de-emphasized at the end of the Cold War and all the other submarine missions came back as a more balanced mission (suite) as opposed to specific "go after SSBNs of the other side," the impetus for such an expensive, high-powered submarine was less. And I think when the Administration at the time reviewed it, they decided it wasn't worth the cost to the

country to go build 29 ships in that class. So they cut it all the way back to one, and then restored the second ship and finally the third ship.

We had two shipbuilders, each of which had backlogs in excess of 10 submarines on their books in 1990-1991, and they were looking at radically downsizing the shipyards and potentially going out of business, or at least one of them. In that environment, we realized we had to review not only what the submarine looked like, but also the process by which we built submarines.

Facing a potentially seriously low production rate, we had to go put together a submarine program that maintained as much combat capability as we possibly could, in particular stealth, but was affordable to the country so that we could build enough of them to eventually replace the *Los Angeles* Class. That's the whole impetus for the *Virginia* Class.

I went through DSMC's Program Management Course in the spring of 1994. From there I went to the Office of the Assistant Secretary of the Navy for Research, Development and Acquisition, but was pulled out after only seven months to go run the *Seawolf* program. The *Seawolf* is very near and dear to my

heart. I was the deputy ship design manager as a lieutenant commander, so I actually was heavily involved in the design of the ship. And then to come back and deliver it years later as the program manager was a real eye opener.

Q Undeniably, you've got a big job — building the Virginia Class Attack Submarine, the first of four submarines whose use will impact our nation's naval forces over the next 20 years if not longer. For the benefit of our readers, would you give us a brief legislative review of the Virginia Class — when the program was conceived, why, and its progress through Congress to actual funding and contract start.

A It got started in the early '90s — 1991, 1992 — after the *Seawolf* was canceled and we were without an attack submarine program. And we realized at that point that the *Los Angeles* Class, of which we built 62 ships, would be slowly phasing out over the next 20 to 30 years.

The design started in 1996. The lead ship was authorized in 1998. So one ship was authorized in '98, one in '99 — we skipped a year — then there's an '01 ship and an '02 ship. We have a unique arrangement allowed by the FY 98 authorization language in that we could contract for all four of those ships, even before they were authorized. We couldn't spend money on any but the first ship, but they were all allowed to be contracted for, so they're all priced out.

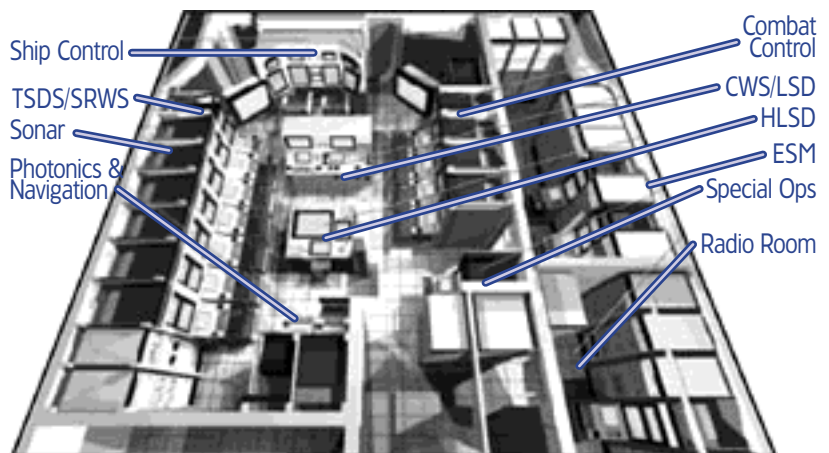
Q So you don't have to worry about going to Congress for more funding?

A We were allowed to contract for four ships, but the way we fund ships is unique. We fully fund them in the year of authorization. In essence, we contracted for four ships — three of which

Virginia's Electronic Surveillance Measures, or ESM suite is state-of-the-art. Collecting intelligence is one of its high-priority missions. *Virginia's* electronics processing will be the best in the submarine fleet.



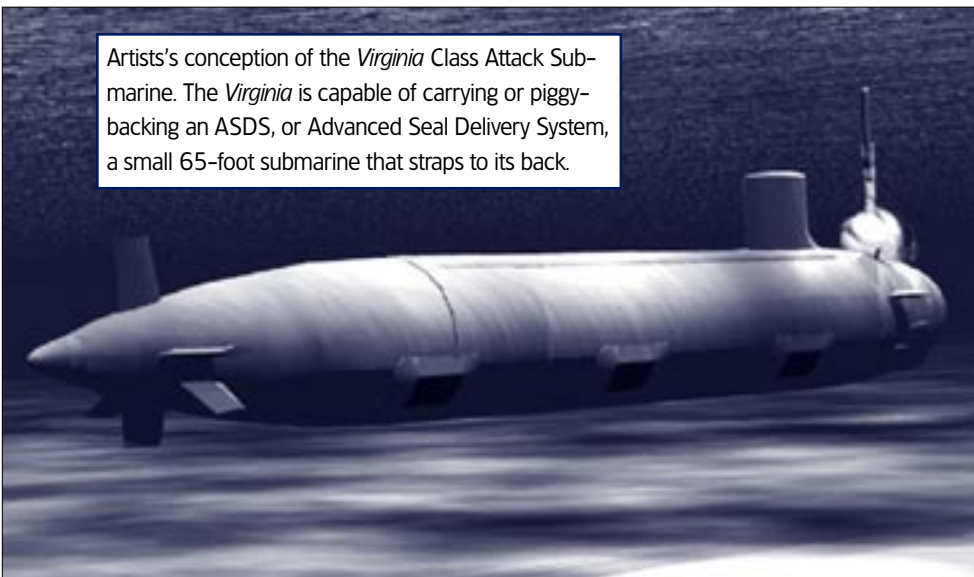
Resembling a large gray whale, shown is an artist's conception of the *Virginia* (SSN 774) Class Attack Submarine.



The Command, Control, Communications and Intelligence (C3I) system module and all cabinets on the ship are designed for easy replaceability. The ship control system has a touch screen display on the ship control console.



Artists's conception of the *Virginia* Class Attack Submarine. The *Virginia* is capable of carrying or piggy-backing an ASDS, or Advanced Seal Delivery System, a small 65-foot submarine that straps to its back.



were not yet approved. So we do, in fact, have to go to the Hill each year for each ship's money; but, once we get the money for that ship, we don't have to negotiate the contract with the shipbuilder — that's already negotiated. We just fund the contract line item.

Q

And your contractors are Electric Boat Corporation and Newport News Shipbuilding?

A

Our contractor is Electric Boat Corporation. Newport News Shipbuilding is a subcontractor of Electric Boat. They are teamed and they have a teaming agreement, but the contract I have is with Electric Boat. We had Milestone I in 1994, Milestone II in 1995, and we've been designing and building ever since. The design started in 1996 and the lead ship in 1998, and that lead ship delivers in 2004.

It was a tough time for shipbuilders to go through the '90s where we [DoD] didn't order a submarine from 1991 until 1996, and then we ordered another one in 1998 after having gone all the way through the '70s and '80s at three to six orders a year. Our shipbuilders, particularly Electric Boat, were very nearly looking at going out of business at one point.

Q

How many NSSNs does DoD want over the long term?

A

We expect to build a class of 30. That's the program plan. And we ramp up to two per year in fiscal year '07, and then in fiscal year '09 we go to three per year.

Q

Does our nation have an ideal submarine force mix?

A

There will be four NSSNs out there in 2009. Then we have the ballistic missile submarine force — that's 18 *Ohio* Class. They're the large ballistic missile submarines. And then we have the *Los Angeles* Class — right now there are a total of 55 attack submarines at sea. That's almost entirely the *Los Angeles* Class. And there's one *Sturgeon* Class attack submarine still out there.

If you look at what the CINCs [Commanders in Chief] are asking for — we would need more attack submarines. At the height of the Cold War, we had almost 100 attack submarines. We've gone down to 55, so that's a greater force reduction in the submarine world than there was in other comparable forces.

There was a Joint Chiefs of Staff study done about two years ago. They did not query the submarine force — they queried the CINCs and asked, "What are the missions that you have, and how many submarines do you need by area for what your needs are?" There were exercises and intelligence gathering. The numbers came back that we need a force level of 68 attack submarines by 2015. I believe that by 2025 DoD would like

Construction Update Virginia Class

Virginia	51% Complete
Texas	38% Complete
Hawaii	9% Complete
N. Carolina	0.4% Complete

to see 76 attack submarines. This [study] was not done by the Navy. This was done by the Joint Chiefs.

Fifty-five, they said, was the rock bottom below which you would really be hurting the national missions. We participated somewhat in that study just from an information feed standpoint – how many ships could we build, and how many years would it take, and what would they cost. And that study threw out all of the nice-to-have missions, because there's not enough submarines to conduct them.

I'd have to say there need to be more [attack submarines], and we're looking at ways to see if we can ramp up to two attack submarines a year earlier.

Certainly the other thing on our horizon is the SSGN [nuclear powered cruise missile submarine] program where there will be four *Ohio* Class submarines identified for conversion to the cruise missile level. That's being worked in Department of the Navy right now. Certainly, that would enhance our force mix because they carry so many Tomahawks. We know that the SSGN is going to be a state-of-the-art submarine.



Let's talk capabilities. Can you tell us why the Virginia Class is better than its predecessor, the Seawolf? Let's start with advanced technology and the periscope design of the Virginia Class. In the aftermath of this year's Greenville accident, much speculation was focused on the periscope design. Could the periscope design of the Virginia Class have prevented that accident?



The *Greenville* is a late model *Los Angeles* Class submarine, and her periscope



Scaffolding surrounding SSN774 Sail at Norfolk Naval Station.

is a Type 18 attack periscope, which I have to tell you, is a pretty sophisticated piece of gear. The *Greenville* accident was due to an operational issue, not an equipment issue.

The photonics mask that we have on our ship [*Virginia*] really is a sophisticated television camera. Our equipment has high-resolution color, high-resolution black and white, and infrared. It also has a GPS [Global Positioning System] receiver.

The photonics periscope on the *Virginia* – that's a radical departure from what we're used to. And we have two of those on this ship. There is no conventional backup periscope for an optical look through the prisms and the tube in this submarine. So we have to make sure that those photonics periscopes work correctly.

For that reason, we've sent a prototype of the *Virginia* periscope to sea on the *Annapolis* for two years. And the forerunner of the photonics periscope was at sea in other ships for a couple of years before that. These will be fully wrung out before we put them on this ship and make them operational.



On the subject of stealth, hasn't the advantage of stealth eroded considerably due to technological improvements of our potential adversaries' systems? Is it realistic to state that the sine qua non submarine attribute is acoustic stealth? Specifically, can the Virginia Class communicate without giving up stealth?



Stealth, particularly acoustic stealth, is a submarine's No. 1 reason for being. Once you go below the waves, the mere



threat of a submarine in an area is a powerful instrument of policy. When you take action in a submarine such as firing a torpedo, coming up to periscope depth to communicate, or taking other action, typically you give up a measure of that stealth in order to take the action. That's always been the case for all submarines.

Probably the best example I can give is the Falklands War, where the presence of one nuclear attack submarine from the UK [United Kingdom] Navy kept the entire Argentine surface fleet in port. A submarine is indeed a very powerful tool.

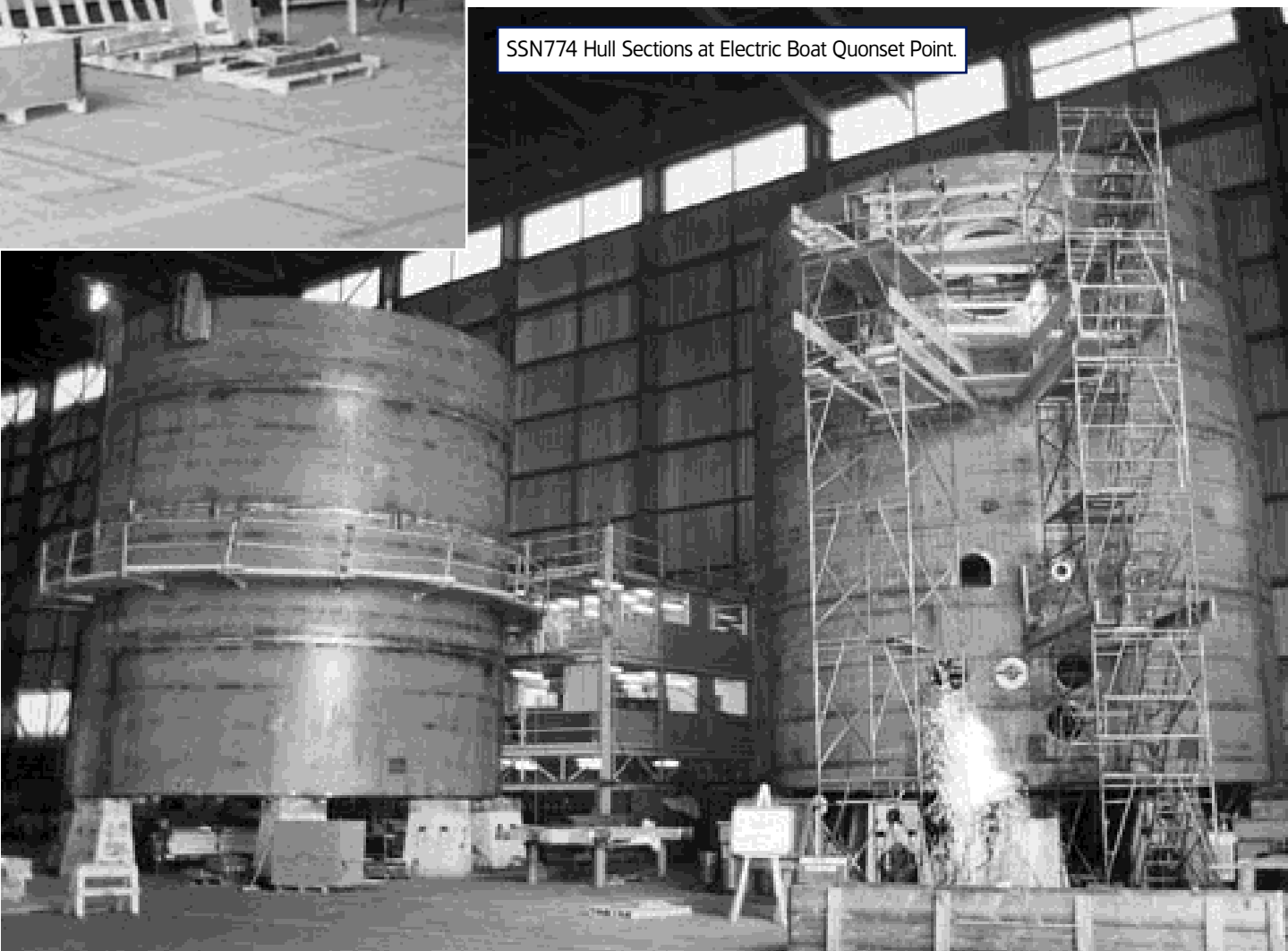
One of the *Seawolf's* reasons for being was the stealth margin between our ships and the rest of the world – we lost a lot of that margin because the rest of the world was rapidly catching up. The

Seawolf and the *Virginia* Class restored that margin of stealth.

As far as communicating, you can basically *receive* “until the cows come home” without giving up your position. If you want to *transmit*, certainly, that's an emission. But the way our submarines operate today, we would not just “pop up” any old place and transmit, nor would we stay on the air a long time. We transmit very quickly, jump down below the surface, and move out.

To get the *Seawolf*-like acoustic stealth on the *Virginia*, which is a smaller ship than the *Seawolf*, was a challenge. Fortunately, we were able to build on all of the developments and advancements from the *Seawolf* Class. And we have the next generation propulsor on our ship, which is very important for acoustic stealth.

SSN774 Hull Sections at Electric Boat Quonset Point.



REAR ADM. (SEL) PAUL E. SULLIVAN, USN PROGRAM MANAGER, VIRGINIA CLASS ATTACK SUBMARINE (PMS 450)

Rear Adm. (Sel) Paul E. Sullivan took command of the *Virginia* Class Attack Submarine Program (PMS 450) in September 1998 and served as Program Manager until August 2001. The *Virginia* Program is developing the Navy's premier nuclear attack submarines, which will replace the aging *Los Angeles* Class during the next few decades. During his tour, the contract for the *Virginia* Class Submarine Program was signed, construction was initiated on the first four submarines, and most of the *Virginia* design was completed. The lead ship of this anticipated 30-ship class – *Virginia* (SSN 774) – is on track to deliver in the spring of 2004.

Sullivan is a native of Chatham, N.J. He graduated from the U.S. Naval Academy in 1974 with a Bachelor of Science degree in Mathematics.

Following graduation Sullivan served aboard the *USS Detector* (MSO 429) from 1974 to 1977 as Engineering Officer, Operations Officer, and Executive Officer, and earned his Surface Warfare Qualification. He then attended the Massachusetts Institute of Technology (MIT), graduating in 1980 with dual degrees of Master of Science (Naval Architecture and Marine Engineering) and Ocean Engineer. While at MIT, Sullivan transferred to the Engineering Duty Officer (EDO) community.

His Engineering Duty Officer tours prior to command include Ship Superintendent, Docking Officer, Assistant Repair Officer, and Assistant Design Superintendent at Norfolk Naval

Shipyard, where he completed his Engineering Duty Officer qualification; Deputy Ship Design Manager for the *Seawolf* Class submarine at Naval Sea Systems Command (NAVSEA), where he completed his submarine qualification program; Associate Professor of Naval Architecture at MIT; *Ohio* (SSBN 726) Class and then *Los Angeles* (SSN 688) Class Project Officer at Supervisor of Shipbuilding, Groton, Conn.; Team Leader for Cost, Producibility, and Cost and Operational Effectiveness Assessment (COEA) studies for the New Attack Submarine at NAVSEA; and the Director for Submarine Programs on the staff of the Assistant Secretary of the Navy (Research, Development and Acquisition).

Sullivan served as Program Manager for the *Seawolf* Class Submarine Program (PMS 350) from 1995 to 1998. During his tenure, the *Seawolf* design was completed, and the lead ship of the class was completed, tested at sea, and delivered to the Navy.

Sullivan's awards include the Legion of Merit, the Meritorious Service Medal (four awards), the Navy Commendation Medal (two awards), and the Navy Achievement Medal.



But there's more than acoustic stealth. There's also electromagnetic stealth. The *Virginia* is, again, further development of what we put on the *Seawolf*.



Endurance — How long can it stay out? Under what conditions?



Our submarines normally stay out a couple of months. The actual number of days is classified. The limitation is food. We make our own water; we make our own oxygen; we make our own electricity; and the reactor is good for the lifetime of the ship. What limits us is

running out of food. And when you run out of food, you have to come in.



Tell us about Command and Control.



I'll lump Command and Control with Intelligence, Surveillance, and Reconnaissance. The big plus in this submarine is all the electronics. We made the step from militarized, ruggedized, Mil-spec-type, non-commercial electronic hardware to almost exclusively commercial off-the-shelf [COTS] hardware. Now, that brings with it a whole host of issues, but what it does allow you to do

is buy much more processing power for a much lower price. For example, we developed the Command and Control system for *Virginia* for *one-fifth* of the cost of *Seawolf*.



Using COTS parts?



Using COTS parts. And the shipset cost savings is about on the same order of magnitude. The whole combat system and the whole Command and Control system module and all of the cabinets on the ship were designed for easy replaceability. We have all the bells and

whistles that you could think of on the Command and Control system today, but we will be ready to upgrade as new items come to us in the future.

Our ship control system is also different because we're flying by joystick now as opposed to the yokes that you see in airplanes. We now have a touch screen display on the ship control console.

The combat system is impressive. Instead of having stand-alone or federated subsystems that may or may not talk to each other, we actually have 23 subsystems on this ship that all talk to each other over a wide area network. We've never done that on a submarine before. The first combat system module is in a test facility in Groton [Conn.], running and testing right now, three years before the ship delivers.

Certainly our Electronic Surveillance Measures, or ESM suite is state-of-the-art. Collecting intelligence is one of our high-priority missions. The *Virginia*, her sensor, the mast that comes out of the sail, and her electronics processing will be, again, state-of-the-art and they'll be the best in the submarine fleet. So that's an improvement.



Are our NATO counterparts and allies at all involved in development of the NSSN?



Not to a high degree. We have data exchange agreements with the UK, in particular. We keep each other abreast of progress. They're building the *Astute* Class nuclear attack submarine. I would call it an interim development. They're also looking at the next generation beyond the *Astute*. We talk back and forth between the two countries, but they are not participating in this program as a joint partner.



How about Special Operations?



That's one area where we're markedly advanced in a couple of ways. First we can carry the ASDS, or Advanced Seal

Delivery System. This is a small submarine that will strap to the back of the *Virginia*. It's 65 feet long and it's testing out at Pearl Harbor right now.

The *Virginia* can also carry what's called the Dry Deck Shelter, which is an existing system that we use to lock out Seal swimmers. And they have smaller, mini submarines called Swimmer Delivery Vehicles that go in and out of that. It looks like a hanger. So we can go to sea with either the ASDS or the Dry Deck Shelter.

Inside the ship we have a nine-man lock-in/lock-out chamber that no other attack submarine has. We can lock out half a platoon of Seals in one lock-out cycle. So if you want to send an entire platoon of Seals to shore, two lock-out cycles and they're out of the ship.

The torpedo room is another example of an area where the ship is upgradeable. It's laid out with a center structure and then a side structure where we store all the weapons. On the *Virginia*, you can offload all the torpedoes and all their support structure. That leaves a big open space in the ship you can use for whatever you want. For example, you could berth up to probably 40 Seals in the torpedo room in Tokyo Hotel-style racks and store all their gear at the aft end of the room.

Or, if you wanted to load the submarine out with autonomous underwater vehicles, and run a long program of cycling them out through the torpedo tubes, you could do that with this torpedo room.



Is the Navy developing any kind of prototype before they actually commission the first NSSN?



The first ship is the prototype. We have a saying in the Navy. "We can't send anything to sea in a submarine before we send it to sea in a submarine." We would not build a prototype submarine; that's why a lead ship of a class is so hard to get built – I speak from experience and

the tremendous difficulties building the *Seawolf* – because the lead ship is the prototype.

Instead, we test critical systems before we put them to sea. For example, the engine room. We used to use steam distilling plants on submarines. They were complicated, expensive, and hard to maintain. The commercial market in making fresh water went to reverse osmosis units, which are units like you would get for your house or put under your kitchen sink, that take water and filter it. They make great water. Basically, we built a prototype plant, and put it to sea on the *Hartford*. It works fine. The crew loves it. So we have two of them on the *Virginia*.

For the most part, we follow a strategy of prototyping the particular system, building the prototype system and then testing it. It is then ready for the Fleet. Once that's done, of course we shock test all the major components.



Would you comment on Virginia's strike capabilities?



The torpedo room on the *Virginia* is smaller than the *Seawolf's* torpedo room. The *Seawolf* can load out 50 weapons; *Virginia* can load out 38 weapons. So the difference comes in the fire rate. *Virginia* has 12 vertical launch tubes (forward) in the ship so we can salvo 12 Tomahawks quickly if we have to. The *Seawolf* does not have vertical launch tubes. She carries more weapons, but she can only salvo eight out of her eight torpedo tubes. So it's a question of quantity vs. timeliness. And each one has its advantages, so I would say the two ships are complementary.



Since the combat system of the NSSN has been designed using mostly commercial off-the-shelf [COTS] equipment in an open architecture to accommodate technology insertion, isn't that forcing those charged with operating and maintaining the NSSN to live "hand-to-mouth" in a shrinking industrial environment? How

will you turn a future of uncertain suppliers into a plus?

A Yes, there are negatives. But overall, it's a definite plus in the cost of development and buying a shipset. We have much cheaper up-front costs. However, we take the risk that after we build the first four ships and now we're going out to buy the shipset for the fifth ship – lo and behold, some of our suppliers are out of business.

With the commercial market as robust as it is, that doesn't bother us. The basic technology producers come and go. The problem emerges when you stick with a technology producer who goes down his or her own path and gets away from the bulk of the commercial market. Then you're in a technology corner. And you either stick with that vendor forever or you pay the price to jump to another technology – and maybe do some redesign along the way.

The bulk of our combat systems change frequently. Some of the technology turns over quickly, but some items like the radar aren't going to change a whole lot over the life of the ship. With items like the radar, you could probably stay with one vendor and be reasonably assured of a supplier. But for the bulk of the combat system, the hardware, the software, and the middleware are changing, so your contract has to be designed so that you can keep up with that.

It's a much more dynamic situation now. Today, technology refreshment is a part of your program; you have to be agile enough to make sure that you keep up with the technology. If I were only buying my four ships, I could probably do life-of-ship buys, keep all the computer cards on the shelf, and as they malfunctioned, just break them out of stock and go replace them. But I'm continuously buying more of the product.

It's a different way of doing business and there are pros and cons. The pro is that it's real easy to change. The con is you have to change.

Q Speaking in terms of milestones, where was the program when you took over in 1996 as far as what had been accomplished? And what can you point to that was accomplished during your tenure?

A My predecessor, Dave Burgess, was a genius – probably the best program manager the Navy had ever had for breaking ground on a new program. He led the team that won a Packard Award. I was the program manager who transitioned to construction. The design was about 50 percent complete; the acquisition Milestones I and II were well behind us.

The lead ship – the *Virginia* – is now 51 percent complete. There are pieces of submarine all over the place at Newport News and Electric Boat. As I mentioned earlier, the lead ship combat system module is in a test facility in Groton [Conn.], running and testing right now, three years before the ship delivers.

The second ship is 38 percent done, the third ship is really just started, and the fourth ship was authorized this year. We've done some prototype work on it. Building a submarine is like a three-dimensional jigsaw puzzle. It's staggering. It takes 8,000 construction drawings and about a million parts.

Q Are Electric Boat and Newport News Shipbuilding going to make that 2004 commissioning date for the *Virginia*? Will you be there?

A I certainly hope to be. It was pretty exciting commissioning the *Seawolf*. Yes, Electric Boat is on schedule. Both the first ship and the second ship are on schedule. Our track record at first delivery of class submarines is not very good, so the performance is a testament to the way Capt. Burgess set this program up. And my counterpart at Electric Boat – Fred Harris, who is a shipbuilding wizard – is keeping things on track and on schedule.

Q So the modeling and simulation were exceptionally realistic?

A On this program, yes. There are very few changes. With IPPD [Integrated Product and Process Development], we're seeing less than 25 percent of the waterfront design changes than we experienced in *Seawolf*. Now, with half the first ship built and 38 percent of the second ship built, we know that if you do this right and you do the 3-D model, it costs you up-front to go build this huge electronic database, but the construction on the waterfront compared to other classes of submarines is a breeze. You would never know you were building a lead ship – it's going that well.

Q Sounds like you're leaving your successor a program in pretty good shape.

A The technical and schedule aspects of the program are in great shape. And cost-wise, it's not in bad shape. Financing, however, is not in such great shape. I've spent the last four months explaining to people why, when you've budgeted a program assuming a 2 percent inflation rate and you've experienced a 7 percent in material costs overrun and 4-1/2 percent in labor costs inflation, the program is in trouble. There were a lot of budget cuts on this program early on. So it's underfinanced. It's a great program that's underfinanced.

Q Is there anything, in your view, that we at the Defense Acquisition University can do to enhance the acquisition education of the Navy's future program/project managers and program executive officers?

A There are two things. First, when major acquisition pieces of paper or legislation come out, it would be really nice (and I know the University tries to keep a roster of all the serving program managers) if they could put together talking points, something like "The instruction is 150 pages long, there were 248 changes to

it, but here's the page and a half of bullets you need to know about." That would be very helpful, because as a PM, you're always looking to what's going to bite you next. The second thing is this. There isn't anyone out there who knows the acquisition business – the pitfalls, the restrictions, the limitations, and the things that hurt us – better than the Defense Acquisition University staff and faculty. So I would like to see the school actually lobbying DoD for change. There's education, which is what your business really is, and then there's advocacy.

In my thought processes, you're the best educators on this acquisition process – you have a healthy turnover of staff, and you get people in who have worked the business. Who better to tell the OSD staff, "No, this is too restrictive; you really ought to go knock this off." For a program manager or a PEO to take on a regulation or a statutory restriction that needs help, that means you have to take time away from the program – you're already working 14 hours a day – to prepare and construct a position.

On the plus side, I get your "product" all the time. My people come back from DAU energized – they're ready to go, they know what they need to do. I think the product you're putting out is pretty good.

Q

What does a man in charge of building the world's mightiest submarine for the world's mightiest navy do for relaxation? Any future plans?

A

My kids would tell you I don't relax. But I am somewhat of the staff artist around here. I'm also into music and running.

Q

Looking at it from an outside observer's vantage point, the enormity of the responsibility for this program could certainly cause a few sleepless nights.

A

It's the second biggest program in DoD. In 2000 dollars, it's over \$60 billion. Yes,

I worry a lot, and at times I'm simply tired. I'm almost into my sixth year as a major program manager. That's probably too long. *Seawolf* was really rough and rocky — that was a very, very tough program to run. Taking on a second tour as the *Virginia* program manager has been both rewarding and challenging.

Q

You've been selected for promotion to rear admiral, so somebody is obviously paying attention to all that hard work. Where to from here?

A

As far as future plans, I've been assigned as the Deputy Commander for Integrated Warfare Systems, Naval Sea Systems Command. And I'll probably be leaving this position around the end of August.

Q

What's the best advice you ever received – be it from a relative, colleague, mentor, or friend – to prepare you for the job of PM?

A

A couple of things, and I try to teach this when I give classes. Integrity, honesty, leadership, and financial acumen are all important, but they are no good if you're so worn out that you can't think straight. So the number one attribute – and this is from a guy who's been doing this for six years – is physical endurance.

The second thing is total forthrightness. I'm always amazed at the reputations that program managers have on the Hill and with OSD staff that we fail to be forthright and honest on the true cost of our programs. Total forthrightness is the only way. Nora Slatkin, a former Navy Acquisition Executive, said that bad news doesn't improve with age. She probably didn't coin that phrase, but I agree with her thinking. I'd rather take it on the chin right off the bat if I've got a problem. I'd rather tell my chain of command, Congress, and the press upfront.

Q

As we conclude this interview, anything else on your mind or anything you'd like to add?

A

Right now the thing that's uppermost in my mind is, of the thousands of decisions I've made, have they all been made on the side of safety? The thing about submarines that's different from everything else is that when you lose one, it's like the Russian *Kirsk*. It's a national disaster.

When we certify a submarine to go to sea, particularly a lead ship (probably the hardest thing I've ever done is certifying the *Seawolf*), the program manager personally reviews all the waivers, all the nonconformances, and deviations from specifications. It's just like signing off that the Space Shuttle is ready to fly. It isn't just driving the aircraft carrier out on the ocean where, if everything breaks you just sit there for a while and can get towed back in. If something breaks at test depth, you're in a world of hurt in a couple of seconds.

The program manager and the program executive officer, with detailed intimate personal knowledge of the entire status from a safety viewpoint of that ship, sign and certify that that ship is ready to submerge. And then we climb aboard and take the first ride out. The acquisition system doesn't let up on you to prepare for that review; it takes months. So we spent a lot of Saturdays, Sundays, and nights working on every last detail of the *Seawolf*.

Certifying that lead ship was a very, very difficult, intense process. Even a guy who's certifying the Joint Strike Fighter ready to fly is able to expand that envelope gradually. The *Seawolf* we took to maximum depth, maximum speed on the first dive. I was aboard, along with the program executive officer and the four-star head of Naval Nuclear Reactors. *We're well motivated to get it right.*

Editor's Note: Sullivan welcomes questions or comments on this interview. Contact McGuiganjf@navsea.navy.mil.



DoD Selects Foreign Defense Equipment For Testing

The Department of Defense has selected 11 new start projects and 32 previously approved continuing projects to receive fiscal 2002 funding under the Foreign Comparative Testing (FCT) Program.

Authorized by Congress since 1980, the program is administered by the Office of the Director of Strategic and Tactical Systems, Office of the Under Secretary of Defense (Acquisition, Technology and Logistics).

The FCT Program responds to a growing awareness of the value of using nondevelopmental items to accelerate the acquisition process and cut rising development costs. The principal objective of the FCT Program is to support the U.S. warfighter by leveraging nondevelopmental items of allied and other friendly nations to satisfy U.S. defense requirements more quickly and economically.

Given a world-class foreign item, U.S. user interest in the item, a valid operational requirement, and good procurement potential, the FCT Program reduces the acquisition cycle for fielding needed systems and equipment not otherwise available. At the same time, by promoting competition and eliminating unnecessary research, development, test, and evaluation expenses, the FCT Program reduces total ownership costs

of military systems while enhancing standardization, interoperability, and promoting international cooperation.

Each year, the Military Services and U.S. Special Operations Command nominate candidate projects to the Office of the Secretary of Defense for FCT funding consideration. Each proposed project is screened to ensure the nondevelopmental item addresses valid requirements, a thorough market survey was conducted to identify all potential contenders, and the sponsor has developed a viable acquisition strategy to procure the foreign item if it tests successfully and offers best value.

Of the 11 new start projects for fiscal 2002, three are sponsored by the Army, four by the Navy and Marine Corps, two by the Air Force, and two by the U.S. Special Operations Command.

Summaries of the projects selected for fiscal 2002 funding are online at <http://www.defenselink.mil/news/Oct2001/d20011012fct.pdf>. Additional information about the FCT Program is also online at <http://www.acq.osd.mil/sts/fct/>.

Editor's Note: This information is in the public domain at www.defenselink.mil/news.

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Foreign Military Sales Reinvention in the Department of the Navy

Turning Ideas into Action

GIBSON LEBOEUF

Signs of change are everywhere, especially in the world of business and commerce, with daily reports of mergers, acquisitions, and spin-offs in search of profit and efficiency. The art and science of change embrace such concepts as total quality management, business reengineering, process redesign, and, more recently, the Department of Defense (DoD) Revolution in Business Affairs. Private-sector experts point to the benefits of change, as large corporations raise efficiency and sharpen the bottom line by cutting red tape and empowering workers.

But, does this approach work in the public sector, down the halls and inside the cubicles of government as well? Absolutely! "Reengineering is about operational excellence," wrote Michael Hammer and James Champy, in *Reengineering the Corporation*. Within government agencies, in an atmosphere where policy is more important than profit, the biggest challenges are breaking down the bureaucratic barriers and finding accurate measures of performance.

Change has made an indelible mark in the pub-

lic sector. For example, inside DoD, the Department of the Navy (DoN) office responsible for international policy and acquisition – the Navy International Programs Office (IPO) – has made great progress using business reengineering concepts. With its vast array of stakeholders, especially Navy and Marine Corps systems commands and program offices, "Navy IPO" has made change management an integral concept in its vision of how things are done. Navy IPO deals in policy matters such as international Research and Develop-

ment (R&D) agreements, and the application of export controls to limit the spread of sensitive technologies. But, in Foreign Military Sales (FMS), it's the world of acquisition and FMS program management where "the

LeBoeuf is the Deputy Director, Navy International Programs Office, Washington, D.C. He previously held the position of Navy Chair, DSMC Executive Institute, Fort Belvoir, Va.



rubber meets the road,” and where FMS reinvention has produced the greatest impact.

International programs are important for three reasons: military, political, and economic.

In today's era of limited resources and interlinked economies, international cooperation in the defense sector leads to reduced unit cost in the acquisition of ships, aircraft, communications gear, and support or training equipment — everything that a modern military force needs to guarantee critical interests are protected.

Military

First, international programs contribute to cooperation between military forces, enhancing interoperability between U.S. forces and those of their friends and allies. This leads to the ability to operate in coalition with other nations, creating

a real force multiplier to either keep the peace or respond effectively in time of conflict.

Political

Second, an active set of international programs supports political objectives by strengthening contacts and ties among allies and friends to reinforce our alliances and promote regional security.

Economic

Third, in today's era of limited resources and interlinked economies, international cooperation in the defense sector leads to reduced unit cost in the acquisition of ships, aircraft, communications gear, and support or training equipment — everything that a modern military force needs to guarantee critical interests are protected. Certainly, we are

more secure when the U.S. economy is strong, as well as the economies of our allies and friends. Whether provided via FMS or direct commercial sales, the export of defense-related systems or services can only strengthen our own industrial base and expand the pool of talent and resources we will need to draw upon in time of war.

Not only are international programs a good idea, they are mandated in DoD acquisition regulations. Just look at the latest versions of the DoD 5000 series. Regulations explain that all DoD systems, where applicable, need to support successful joint and combined operations. This means the interoperability of systems to support the coalition warfighter, and the sharing between allies of promising technologies.

Early in the life of a program, an analysis of alternatives needs to include a careful review of what our allies can offer. The acquisition strategy must consider foreign participation, whether that means turning to similar projects by major allies or NATO organizations, options for cooperative development and production, the use of promising commercial options, or via the sales of U.S. equipment.

A Hotbed of Innovation and Change

Since 1997, Navy IPO has employed Integrated Product Teams (IPT) to study and realign its internal processes. Under the banner of “reengineering,” these IPTs, composed of our own employees, developed some valuable ideas and recommendations such as expediting contracts close-out; cutting out unnecessary steps in the processing of LOAs (Letters of Offer and Acceptance, which are the primary contractual vehicle between governments); and finding ways to make the foreign customer's money go further.

But this was just the start. On Sept. 9, 1998, the Secretary of the Navy gave formal status to the process of change when he chartered Navy IPO as a Reinvention Laboratory. He directed Navy IPO to “continue improving workforce

DoN FMS Reinvention Laboratory's 12 Working Groups

1– Strategic Business Plan: Work with industry to understand the future acquisition needs of friends and allies.

2– FMS Four-Step Process: Give structure to the FMS cycle. Work proactively to meet the Country's real needs, in four steps: Market Development; FMS/DCS Planning, Competition and Negotiation; Contract Execution; and Case Closure.

3– Partnering With Industry: Develop the concept of *Team International*, an Integrated Process Team approach involving the Under Secretary General (USG), industry, and the FMS customer.

4– Improve Pricing and Visibility: Improve visibility of the FMS process, making clear to the customer how his or her money is being used.

5– Case Closure: An extensive review of the FMS case and contract closure backlog. Identify the best ideas from numerous previous studies, including Navy IPO's 1996 Reengineering Study.

6– Pursue FMS/DCS/MOU Combinations: Pursue hybrid arrangements of FMS, direct commercial sales, and cooperative agreements (memorandum of understanding).

7– FMS Reserve: Establish the means to pay for the storage, inventory, and ordering of out-of-inventory items — those systems no longer actively used by U.S. forces, but needed by FMS customers.

8– Strengthen the Country Program Director: Concentrate on the human interface in this process — looking to improve training and empowerment of FMS desk officers or Country Program Directors.

9– Sharing Reinvention Initiatives with Customers and Industry: Provide the entire FMS community with information about FMS Reinvention.

10– Best Business Practices: Compile a listing of "Best Business Practices" from all existing sources, especially techniques used in the commercial sector to implement change.

11– Program Management Lines: Study the consistent and open application of Program Management Lines used in Letters of Offer and Acceptance.

12– Improve the Disclosure Process: Improve the USG technology transfer disclosure process, both within DoN and at the DoD/State Department level.

training, identify new ideas for cutting red tape, and renew its focus on customer service." The basis of all this activity was the National Performance Review, the goals of which were clear:

- Be customer-oriented.
- Cut red tape.
- Employ the best practices of the private sector.
- Make maximum use of advances in information technology.

The Director, Navy IPO, formed a Reinvention Laboratory Team in partnership with industrial professionals represented by the National Defense Industrial Association (NDIA). Co-chaired by Navy IPO and NDIA, three separate teams worked to identify systemic problems with FMS. In short order they submitted a set of more than 150 specific concerns, or "dissatisfiers" raised by customer countries, DoN, DoD, and U.S. industry.

Armed with this information, Navy IPO signed out a memorandum in early 1999, that called for the establishment of 12 new groups (shown in the left-hand column) — each charged with the responsibility of studying a specific area of concern. They reviewed past studies, offered their own issues, and developed recommendations suitable for action by DoN, DoD, and U.S. industry.

The working groups drew on the active participation of concerned U.S. agencies, including the Commerce and State Departments, as well as FMS international customers represented by the Washington Attaché Corps and acquisition staffs. This effort engaged more than 100 FMS professionals, and the work was done at minimal expense, with industry and attachés volunteering their time on a *pro bono* basis.

Putting the Good Ideas to Work

One recurring criticism focused on the penchant of Navy IPO and other FMS agencies to rely solely on FMS — the government-to-government agreement via a signed Letter of Agreement (LOA) — as the only vehicle to provide goods and services to a foreign military.

"Hybrid"

Instead, the new concept is the "hybrid case" — meaning that our coalition partner can construct a composite program by optimal use of hybrid arrangements, combining FMS, Direct Commercial Sales (DCS), and other requirements such as logistics, training, and software upgrades. This permits more careful consideration of related cooperative arrangements such as R&D, cooperative development, or cooperative life cycle support. And, although the U.S. government cannot speak for industry, and vice-versa, the exchange of information permits the customer to take maximum advantage of the U.S. industrial base and arrive at individual agreements that add up to a complete and often a highly innovative approach to building the total package. This, of course, is not without challenges. Navy IPO and the Defense Security Cooperation Agency are still working out details on how the FMS and DCS level of effort matches the funding received.

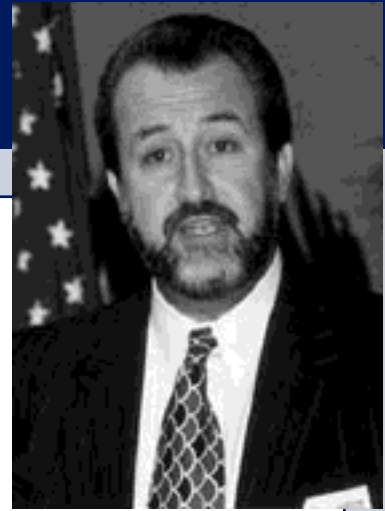
Team USA

A second change from the old ways of doing business was to provide a forum for cooperation — a concept first dubbed *Team USA*. Now more appropriately called *Team International*, the concept is simple. Program offices and agencies, industry, the foreign customer, policy and disclosure authorities — in short, all interested partners — are united to identify early on the needs of the international customer. This gives industry insights into the real needs of the customer; allows Navy and Marine Corps program managers to give their production lines an international aspect; improves communications on complex subjects such as licensing requirements; and allows customers to be clear about their preferences regarding timing, quantity, contracting, and payment schedules to name a few.

Moreover, *Team International* allows early identification of technologies to start the releasability process rolling within DoN, DoD, and the State Department. The concept is working — Team Harpoon, Team Aegis, Team Maritime Patrol Air-

Gibson LeBoeuf

Deputy Director, Navy International Programs Office



Gibson G. LeBoeuf was appointed Deputy Director, Navy International Programs Office, in March 1997. In this position, he is responsible for developing, planning, and implementing the Department of the Navy's International Programs, primarily: Security Assistance; Cooperative Production and Research and Development; Technology Transfer; Foreign Procurements; Foreign Comparative Testing; and Export Licensing. He manages a budget in excess of \$100 million per year.

LeBoeuf is a member of the Senior Executive Service (SES) and a member of the American Society of Engineers. He currently serves on the Secretary of the Navy's Hispanic Council, and is a member of the Senior Executive Association and the Harvard Business Club of Washington, D.C. He also is a member of the National Association of Hispanic Federal Executives. LeBoeuf is listed in *Who's Who in America*, and is a recipient of the Hispanic Engineer National Achievement Award. He has lectured extensively to government agencies, both military and civilian, in areas related to diversity, social change, gender, and race relations.

Before his appointment as Deputy Director, he was holder of the Navy Chair at the Defense Systems Management College, where he was a professor of Program Management, lecturing on acquisition policies, practices, and trends within the Department of the Navy.

During the 102nd Congress, LeBoeuf was on the staff of the Honorable Malcolm Wallop, United States Senate, where he was a Senior Legislative Fellow primarily involved with Senate Armed Services Committee defense-related issues.

Prior to his position on Capitol Hill, LeBoeuf was a Division Director in the Strategic Systems Program Office, supporting the POLARIS/POSEIDON/TRIDENT Strategic Weapons Systems (SWS), responsible for budgeting, contracting, technical, and program management functions for the United States and United Kingdom pro-

grams. He directed and reviewed ship designs for Fleet Ballistic Missile (FBM) and SWS applications, participating in numerous submarine sea trials.

LeBoeuf has more than 30 years' experience in marine, naval architecture, and mechanical engineering disciplines, including acquisition of major complex weapons systems. He earned a Bachelor of Science Degree in Mechanical Engineering in 1969 from the University of Detroit, and holds a graduate certificate in Engineering Management from American University, which he received in 1974. He is also a graduate of the Harvard Business School, having completed the Advanced Management Program in 1985.

In recognition of his outstanding contributions to the POLARIS/POSEIDON/TRIDENT Submarine programs, LeBoeuf received numerous awards and decorations, including a Senior Executive Service Performance Bonus Award; Superior Service Medals from the Navy and Department of Defense (2); Superior and Outstanding Performance awards (2); TRIDENT II Letter of Appreciation; Congressional letters of appreciation (2); Navy Unit Commendation and Lapel pin; FBM 10 and 20 Year pins; and a TRIDENT II Team Certificate.

LeBoeuf was born in San Juan, Puerto Rico. His native language is Spanish, which he speaks and writes fluently. English is a second language. He attended grade school and high school in Puerto Rico, graduating from La Academia del Sagrado Corazon, in Santurce in 1964. He attended college in the United States, graduating and going directly to work for the Department of the Navy Nuclear Ballistic Missile Submarine Program. LeBoeuf and his family currently reside in Virginia.

craft, Team Torpedo, Team Cobra, and several others attest to its success.

“Themes”

Additionally, FMS reinvention declared certain “themes” essential and inherent to all processes.

RESPONSIVENESS

The first theme is *responsiveness*, that is, responsiveness to the customer as well as U.S. industry. Harking back to the precepts of total quality management, we first discovered that all organizations must ask themselves: “Who is my customer?” Sounds simple, but this is not so easy in the defense public sector, where the “product” is “national security” or “homeland defense,” and one “customer” happens to be our Nation. With our renewed focus on customer responsiveness, once we identify our customers we make every effort to keep them in mind, listen to their needs, and ensure our processes meet their needs on-time, with the greatest cost efficiency possible.

In addition to changing the mindset of our own people, the renewed focus on customer responsiveness has led to better guidance on how to write Letters of Request, and shorter processing times for LOAs. And to ensure better customer participation in the final review of LOAs, we now convene a Quality Review Board prior to signature.

Likewise, our progress in Case Closure is another example of Navy IPO’s ongoing efforts to enhance customer responsiveness. Case Closure has been an intractable problem in FMS cases, largely because the FMS process was not “incentivized” to locate the old records needed to reconcile obligations with disbursements, close-out old contracts, and return the balance of the customer’s funds.

Since the spring of 2000, when the recommendations of the Case Closure Reinvention Working Group were put into action, the rate of FMS case close-out has improved by 54 percent, returning some \$500 million to our international partners. Emphasis on responsiveness

also led the Navy Inventory Control Point (NAVICP) in Philadelphia to create a commercial option to speed the delivery of spare parts. NAVICP is now offering its customers the use of a commercial buying service to help shorten their supply chain when requisitions cannot be filled promptly from normal U.S. spare parts bins.

VISIBILITY

A second important theme focused on customer *visibility*. Visibility of the process – sometimes referred to as “transparency” – leads to the elimination of unnecessary steps and reduced frustration on the part of the customer. A measure of visibility is provided simply by offering our international partners a seat at the table, either while planning out the program or during the execution, delivery, and financial management of the FMS case. Visibility requires access. The customer needs to reach someone who can answer questions.

At Navy IPO, the Country Program Director has been empowered as the single point of contact for the respective country or countries under his or her cognizance. Navy IPO’s Security Assistance Directorate was reorganized along the lines of a “matrix” organization, giving primary advocacy to the customer, with others acting as experts/advocates for Navy and Marine Corps systems: ships; aircraft; Command, Control, Communications, Computers, and Intelligence; logistics; and support. FMS reinvention also led to the appointment of a Navy IPO FMS Ombudsman, who serves as the customer advocate and problem-solver when an external perspective is needed. The Ombudsman does not bypass the Country Program Director. Rather, he serves as a listener, technical advisor, and “out-of-the-box” thinker to help our customers deal with a government bureaucracy that can appear complex and confusing to outsiders – foreign or not.

Navy IPO Support for DoD

Much is also happening in the broader security cooperation community within DoD, the Office of the Secretary of Defense staff, the other Military Depart-

ments, and related agencies such as the Defense Logistics Agency, the Defense Finance and Accounting Service, as well as the Defense Acquisition University (DAU). In the DoD arena, the Navy FMS Reinvention Laboratory drew upon and contributed to four landmark “white papers” developed and issued by the Defense Security Cooperation Agency in the 1999 time-frame. These papers, still actively in use, addressed Process Transparency, Pricing and Cost Recovery, Arms and Technology Transfer, and Business Processes.

Most recently, the Military Departments have been cooperating with Defense Security Cooperation Agency on four key IPTs. These teams have much to show for their efforts.

- The goal of the *Personnel and Training IPT* is to develop a career path and certification guidelines for the civilian workforce working in international affairs. It has also implemented a security cooperation internship program.
- The *Financial IPT* has institutionalized the use of a Standby Letter of Credit, streamlined payment schedules, and worked to improve the Case Closure process among all Military Departments, DoD, and related agencies.
- The *Partnering IPT* pursued further definition to permit international customer participation in the contracting process, formalized and disseminated guidance on *Team International* to the entire FMS community, and developed a Customer Handbook that will be available electronically as well as on paper.
- The *Business Process IPT* drew on the U.S. Army’s concept of a Customer Satisfaction Index to measure more accurately the execution of FMS cases, identified standardized business measures, implemented an electronic LOA countersignature to speed up processing, and developed additional guidance on Letter of Request preparation.

The U.S. defense acquisition community looks to DAU to educate DoD personnel on international programs. To

help strengthen these ties and to give program managers a better appreciation for the complexities of working with friends and allies, Navy IPO is partnering with DAU to present specific case studies that capture key concepts of defense cooperation.

For example, for the Advanced Program Management Course, international cooperation experts from Navy IPO helped develop an International Problem Set that requires the class to develop an international cooperative strategy for a hypothetical new Unmanned Aerial Vehicle acquisition program. Navy IPO personnel also participate in the actual presentation of strategies by assuming the role of the Component Acquisition Executive who is to receive the brief. Issues covered include identifying opportunities for cooperation, finding partners, the rules for disclosure of technologies, export licensing, international program security, and the FMS process itself. In addition, Navy IPO personnel regularly provide instruction on international cooperation to the Advanced International Management Workshop and the Multinational Program Management Course. We can expect this relationship between DAU, Navy IPO, and DoD's corps of program managers to continue.

Encouraging a Culture of Change

Navy IPO has embraced this evolution of reengineering and reinvention to arrive at a real environment of continuous process improvement. Simply put, the themes and tools of FMS reinvention have become part of our normal daily routine. The momentum of change continues along several lines.

Information Technology and Disclosure

During the past several years, Navy IPO has developed software to make optimal use of IT – Information Technology – via secure desktop computer as a means to automate the review of export licenses and streamline the Navy's internal processes for disclosure. With a tremendous volume of license requests from industry, the Navy is pursuing the ability to upload technical data from contrac-

tors electronically as opposed to direct mailing – the previous mode of delivery.

Currently, Navy IPO is performing electronic distribution of licenses, including technical and supplemental data, directly to Naval Sea Systems Command field activities. And for export controls and disclosure policy, Navy staffing times have been reduced dramatically with the fielding of a Web-based Technology Transfer Security Assistance Review Board. This system allows secure electronic staffing for offices internal to the Navy staff, informing them of the background and proposals of each case.

The Navy International Programs Office has a clear vision for the future. Ideas of FMS reinvention have been fully incorporated into our strategic plan.

Active Teaming with Industry

Communications between Navy IPO and its counterparts in industry have been helped greatly by “tailored” meetings, such as Company Day and the Navy/Industry International Dialogue (NIID). Company Day permits individual companies to meet, one-on-one, with Navy IPO leadership. They trade briefings on each other's mission, goals, products, and processes. Even more effective is the exchange of issue papers, where specific concerns are submitted formally for discussion to correct wrong perceptions or take action, as needed, to fix problems. NIID is an adjunct to the Assistant Secretary of the Navy (Research, Development and Acquisition)

annual meeting with industry CEOs. Meeting bi-annually, the NIID has become a widely attended conference assembling industry and the entire DoN acquisition community – often with the participation of foreign attachés – to meet with the Director of Navy IPO, exchange ideas, and hear about recent initiatives in FMS, disclosure, cooperative programs, or certain *Team International* initiatives.

Active Teaming with International Customers

Navy IPO has developed a close relationship with the embassy and acquisition communities in the Washington area. Representatives meet periodically with the Foreign Procurement Group, an engaged and active committee representing the acquisition staffs who work most closely with FMS, helping us understand our customer better. Further, the DoN profits from the close relationship with foreign navy and air force logisticians established by the NAVICP's International Office. The Security Assistance Foreign Representatives are provided offices at NAVICP in Philadelphia to gain visibility into the delivery and support of U.S. components and spares.

Engagement with U.S. Stakeholders

The DoN FMS community encompasses all Navy and Marine Corps systems commands, program offices, Program Executive Offices, the Navy Ammunition Logistics Command, and U.S. Navy/U.S. Marine Corps training field activities, which plan and execute some 4,000 FMS cases valued at about \$2 billion each year. To help maintain oversight of these transactions, the Director, Navy IPO, chairs a monthly video teleconference at which individual FMS offices brief their performance in executing the strategic plan and meeting the annual goals. Further, Navy IPO has developed a set of performance measures that are now being applied to high-profile FMS cases and contracts to keep our program offices – and the foreign customer – out of trouble.

Campaign Plan

The need exists to match the milestones of new U.S. acquisitions to the pro-

curement plans of our friends and allies. Accordingly, the Director of Navy IPO has directed the development of a list of key programs – the Campaign Plan – describing individual programs that merit advocacy by Navy and Marine Corps leadership when meeting with their foreign counterparts. This includes programs such as the Joint Strike Fighter; the F/A-18 E/F Super Hornet; heavyweight and lightweight torpedoes; and the Multifunctional Information Distribution System, or MIDS – the miniaturized version of Link-16. This is not “marketing,” but rather a means to achieve the interoperability and economies of scale so key to the value of international programs.

Performance-Based Budgeting (PBB) The Government Performance Review Act of 1993 requires government agencies to link their goals and priorities to the actual budget requests. Navy IPO, in conjunction with Defense Security Cooperation Agency, is undertaking an ambitious program to create the tools and common terms that would allow all government agencies conducting FMS programs the ability to measure accurately their workload and the funding that supports it. We expect PBB to become not only an excellent tool to see how our performance relates to our goals, but also an indispensable tool in continuous process improvement.

A Clear Vision of the Course Ahead

The Navy IPO has a clear vision for the future. Ideas of FMS reinvention have been fully incorporated into our strategic plan. Change is alive, and is integral to our processes and to empowering our employees. The goal is an important one. As friends and allies are able to meet their acquisition needs, Navy IPO – and all its stakeholders and partners – achieve better coalition warfighting capabilities and economies of scale for Navy and Marine Corps acquisition.

Editor's Note: The author welcomes questions and comments on this article. Contact him at LeBoeuf.Gibson@hq.navy.mil.

Defense Electronic Business Education and Training

The Defense Electronic Business Program Office is pleased to announce the inauguration of its eBusiness education Web site – **edLINK** – and the Defense Electronic Business education and training list serve.

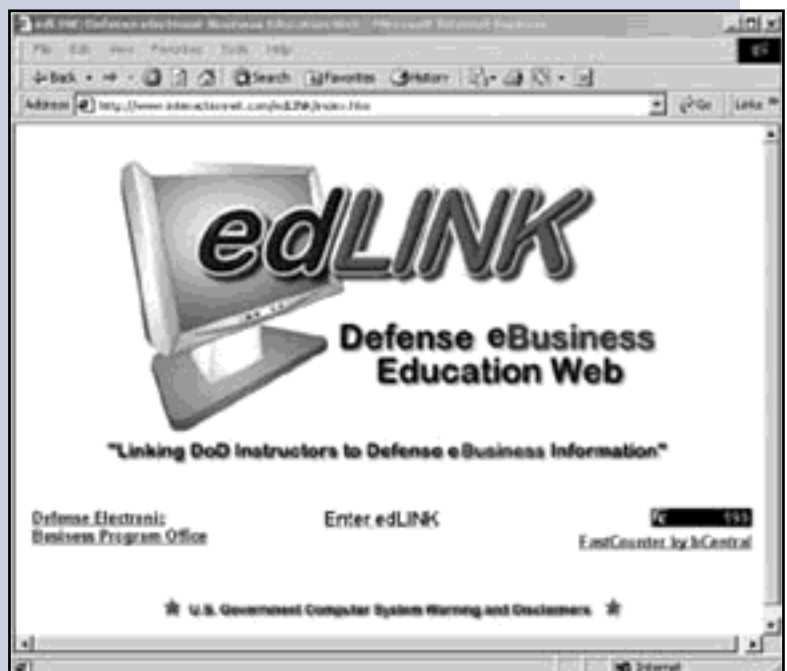
The mission of the Defense Electronic Business Program Office is to accelerate integration of eBusiness techniques into DoD's operations. We created **edLINK** to provide easy access to DoD eBusiness course information. The **edLINK** Web site is designed specifically to provide DoD instructors with information that can easily be incorporated into current and future courses. Prime candidates include courses related to program management, contracting, logistics, supply, and supervisor or manager development.

In addition to **edLINK**, our companion list serve broadcasts evolving, pertinent eBusiness information to DoD's education and training community. We anticipate that the list serve also will become a useful communication network for the exchange of eBusiness curriculum-related information among all of the list serve members. To join the list serve, simply go to the **edLINK** Web site at <http://www.interactionnet.com/edLINK/index.htm> and follow the instructions provided. For **edLINK general** questions or information, contact Stanley Dubowski at:

Comm: (703) 767-0614
DSN: 427-0614
e-mail: stanley_dubowski@hq.dla.mil

For **edLINK technical** questions or suggestions, contact: Allen Van Brunt, DoD eBusiness Education Program Analyst, LLD, Inc., at:

Comm: (703) 925-0660, ext 540
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Contractors and Operational Testing

A Tester's Perspective

MAJ. STEVE ELLIOTT, USA

This article is a follow-up to an article by retired Army Col. John Stoddart, from the March-April 2001 issue of PM, entitled "Contractors and Operational Testing – Some Involvement is Legal and Beneficial." Stoddart makes a number of points regarding situations where it is appropriate, and even good business, to involve contractors in operational testing (OT) of the systems they build. Without question, contractors play a central and sometimes under-appreciated role in creating the technologies, capabilities, and systems around which we mold our force.

The government cannot do it alone – every phase of our materiel development and acquisition process requires our contractors' vision, expertise, and industrial capacity. This is equally true for the Production and Deployment phase, which includes OT.

Level of Participation

Having acknowledged this, however, we must recognize that the appropriate level of contractor involvement in operational testing is variable, and depends on the nature of the event. It can range from very high to very low, or almost no involvement at all. This is so because because different kinds of operational tests and experiments serve different purposes.

Exploratory

Some tests and experiments are exploratory in nature, and may be conducted on non-production-representative systems. The Army typically uses these early in the acquisition life cycle

Elliott is a member of the Army Acquisition Corps and recently served as an operational test officer. He is currently assigned to the U.S. Army Operational Test Command, Fort Hood, Texas.



Mechanics from the Army's 4th Infantry Division split a tank power pack during operational test of the Forward Repair System at Fort Hood, Texas, February 2000.

to evaluate concepts, identify problems, and help develop requirements or address specific, anticipated issues.

Confirmatory

Others, including Initial Operational Tests (IOT), Follow-on Operational Tests (FOT), and to some extent, Limited User Tests, are confirmatory in nature. These are typically field tests of production or production-representative systems conducted after the Milestone C decision, under realistic operational conditions, to verify a system's effectiveness, suitability, and survivability when operated and maintained by typical user personnel.

When dealing with this latter category, test officers must be extremely careful,

and make tough, up-front decisions about the extent to which contractors should participate. There are strong arguments for excluding contractors from some facets of OT.

Stoddart points out that "operational test and evaluation is the field test, under realistic combat conditions, of any item ... for the purpose of determining its effectiveness and sustainability ... for use in combat by typical military users; and the evaluation of the results of such test." But there is a key assumption to be made about the expected operating environment (i.e., those "realistic combat conditions"). The assumption is that OT should replicate, as closely as possible, a combat environment in which soldiers will



Troops from the Army's 1st Cavalry Division inventory components during operational test of the Digital Topographic Support System at Fort Hood, Texas, July 2001.

use the system. If that environment will include contractors, then their presence on the testing "battlefield" may be appropriate. If it will not, then the opposite is true.

Controlling the Environment

Stoddart contends that "strict application of the law [that prohibits persons employed by the contractor from being involved in OT] places an unnecessary 'veil of secrecy' on the whole process." Then he goes on to suggest that "[lack of] contractor involvement in the operational test phase will hinder acquisition streamlining ... [because it forces the acquisition community] to wait until the end of test before any fixes can be applied and tested."

Except in cases where operations security is a concern, government testers and evaluators should never cast a veil of secrecy over operational testing. But testers and evaluators *do* have a primary responsibility to control their test environment, and it may sometimes be necessary to restrict the groups and individuals who have access to test plans and events in order to preserve that en-

vironment. Contractor involvement may be appropriate for some exploratory tests. But this is less likely to be the case in confirmatory tests, where the object is to determine how well soldiers can use the system on their own, in an "as fielded" condition.

On Stoddart's second note, it's helpful to remember that IOTs and FOTs are not intended as tools for system development; their goal is to demonstrate conclusively that the system, *as developed*, is operationally effective, suitable, and survivable when employed by typical user soldiers in the expected operating environment. The time for partnering on system development is *before* IOT or FOT.

The differences between operational and developmental testing are critical. Developmental testing (DT) tends to be tightly controlled and executed through strictly defined procedures. This is not surprising, since one of DT's main functions is to gauge how well systems conform to precise contract specifications. In comparison, OT is relatively uncontrolled. Soldiers or units are issued the

system(s) and logistics support, and then trained and tasked to conduct missions as they would in combat.

Operational testers allow soldiers to "do what soldiers will tend to do" with the system, because the "real world" operating environment most closely replicates the expected and relatively unconstrained combat environment. Why? Because operational testers look at the system as soldiers will use it, not as it

If test officers and evaluators are to verify that the system under test is really operationally effective, suitable, and survivable when operated by typical user soldiers in the expected operating environment, then they must make hard and sometimes unpopular decisions as to the appropriate degree of contractor involvement.

complies with contract specifications. And operational testers aren't just testing the contractor's hardware and software; they're testing the comprehensive system-of-systems, comprising all the factors of Doctrine, Training, Logistics, Organization, Materiel, and Soldier Sustainment (DTLOMS). The task of OT is to confirm that it all works, all together, and all at the same time.

Joint efforts between government and industry to streamline the acquisition

process have stimulated proposals to combine DT and OT into single or concurrent events. These promise a number of benefits, especially program efficiencies in time and dollars invested to bring systems to fielding. But again, we must recognize the distinction between DT and OT.

Current wisdom calls for the acquisition community to complete most or all DT events before starting OT. When done right, this prevents us from exposing soldiers to unrecognized hazards – many of which are revealed in DT processes leading to the system safety release. It also provides contractors and program managers a chance to fix the inevitable host of developmental problems, while giving all stakeholders an acceptable level of assurance that the system works as intended, before committing operational resources (troop units) to the process. In the context of DT, developmental problems are seen for what they are – simply developmental problems to be solved. They appear in an entirely different light, however, when revealed in OT. If still present at this stage, such problems may legitimately be considered failures.

Many of us in the acquisition community fail to recognize that troop units are among the most valuable, and scarcest of testing resources. We tend to see only our individual programs, and fail to notice the cumulative burden of countless such programs on troop organizations whose primary mission is warfighting rather than testing. This might sound like an argument to remove troops from the process, and combine DT and OT, but it is not. To the contrary, it reinforces the idea that DT should generally be completed first, to make the best use of this scarce resource. The bottom line remains: OT must be performed by *real* troops, in *real* units, and in their *real* environments to produce useful results. DT, as currently conducted, cannot provide that environment.

Maintaining Test Integrity

Operational testers and evaluators face a couple of particularly hard tasks. One is assessing the degree to which the sol-

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dier-system performance *in OT* predicts its performance *in combat* (two different environments). Another is designing and executing an unbiased test while under pressure from PMs, combat developers, user units, contractors, and other stakeholders, to accommodate their unique and sometimes divergent interests. Seemingly innocuous environmental factors, like the presence or absence of contractor personnel, can contribute to big differences in performance.

The fact is that the presence of contractors, other onlookers, and participants at the test site does affect the performance of OT. Everyone present has some influence not only on how an OT is run, but also on its outcome. Part of the job of the test officer and evaluator is to minimize those influences, to ensure they don't improperly bias the test outcome. Like the Marines landing in Somalia, test user units and teams can't help but perform differently under the critical gaze of onlookers. It's challenging enough to structure operational tests so that the testers themselves don't influence the outcome. Contractors and other personnel, who aren't part of the combat scenario, only add to this difficulty.

Let's look at *why* such presence can be a problem. As noted, operational testers and evaluators are chartered to inde-

pendently assess their system's performance in the full context of DTLOMS. Their job is to run the test and let the system stand on its own merits – in other words, to “let the chips fall where they may.” But true independence is hard to achieve amid the array of conflicting interests held by various stakeholders in the system. Consider, for example:

- *The Program Manager (PM)*: Typical Program, Project or Product Managers balance a complex array of factors to keep their programs within acceptable limits of cost, schedule, performance, and risk. They are often forced, and expected, to trade off various factors of performance to accommodate fairly rigid cost and schedule constraints. But it's easy for those PMs to forget that operational testers have a different mandate. Any reasonably aggressive PM will try to pressure those testers to design and conduct their events in a manner that conforms to the PM's particular program constraints.
- *The Combat Developer*: The combat developer and operational tester have mandates to ensure that the system under test works for typical user-soldiers in their expected operating environment. Operational testers build most of their test around doctrine and scenarios approved by the combat developer. In other words, the combat developer is the central figure in defining that expected operating environment. But doctrine evolves over time, and changes with other factors affecting the force. To this extent, user-soldiers also define the expected operating environment.

Operational testers must give a lot of weight to the way troops naturally tend to use their systems. Testers can find themselves at odds with combat developers in cases where doctrine doesn't match the way soldiers naturally tend to use the systems we give them.

- *The Contractor*: Despite Stoddart's assertion that “the contractor's No. 1

concern is to field the best possible piece of equipment," a typical contractor's first concern is *running a profitable business*. Fielding the best equipment isn't always the same as running a profitable business – at least to the extent that the typical user-soldier defines "best." Like our Army PMs, contractors balance cost, schedule, performance, and risk, along with a host of other requirements such as providing adequate return on their shareholders' investments. This can be particularly challenging where learning curves are involved (i.e., emerging technologies, novel applications of existing methods, or low-production rates).

The rigid constraints of many government contracts further complicate this delicate balancing act. A test officer then might reasonably expect the contractor's priorities to rank somewhat as follows: 1) make a profit, 2) meet the terms of the contract, 3) avoid actions that might threaten future business, and 4) make the best possible piece of equipment. Like the other stakeholders, it's easy for contractors to forget that operational testers have a different mandate and try to pressure both the PM and the operational testers to design and conduct test events in ways that conform to their own constraints.

- *The User* (organizations slated to receive the fielded system): Users are in a tough spot. They know the shortcomings of their existing system, and they generally have a good understanding of what it takes for a new system to do the job. Users quickly recognize the shortcomings of new systems – often as early as new equipment orientation or training, and well before the actual operational test.

But they also know that fixing those shortcomings may be slow and costly, and that corrective efforts can delay fielding. So they weigh the costs and benefits of receiving an "imperfect" new system against the costs and benefits of the old. The manner in which users deal with this assessment (and

this is a sensitive issue) goes a long way toward determining how the system will appear to perform under test. It's not unheard of for a test user unit to say, "Whatever they give us will be better than what we have now, so let's do what it takes to make this new system look good in the OT." Likewise, users who are predisposed against the system can, if unchecked, act to make that system "fail."

In the middle of all this, test officers retain their charter to gauge total-system performance unencumbered by considerations of the PM's program costs or schedule, the supplier's contract terms, or the user's predisposition.

Hard Choices

Stoddart confidently states, "The benefits of operational testing are obvious to everyone." Regrettably, this isn't always so. Many view operational testing more as an obstacle to be overcome rather than a beneficial part of the process to develop, field, and sustain our systems. This seems especially true when the test operations or methodology conflict with prevailing special interests. If test officers and evaluators are to navigate this minefield – if they are to verify that the system under test is really operationally effective, suitable, and survivable when operated by typical user soldiers in the expected operating environment – then

they must accept this reality. They must make hard and sometimes unpopular decisions as to the appropriate degree of contractor involvement.

Continuing the Dialogue

Stoddart and the Industrial Committee on Operational Test and Evaluation have opened an important window for discussion of the issues affecting operational testing. It would be a mistake to think this is just about a test or series of tests called OT. Ultimately, these issues are at the heart of the all-important decision as to whether materiel systems are ready to support our troops in battle.

The question of contractor involvement in OT deserves a long and spirited dialogue among our acquisition and testing commands, acquisition schools, combat development centers, and contractor community. Undoubtedly, ways to streamline the cumulative process will or have already achieved some measure of success, especially for Acquisition Category III and IV systems, which often move from concept to production in the short span of two to five years. But in pursuing these, we must err on the side of maintaining the integrity and independence of OT.

Editor's Note: The author welcomes questions or comments on this article. Contact him at elliottsteven@otc.army.mil.

DEFENSE ACQUISITION HISTORY PROJECT

Initiated by the Historical Office, Office of the Secretary of Defense, the Defense (OSD) Acquisition History Project is a six-year effort that will produce a five-volume chronological history of defense acquisition from the end of World War II to the present. A sixth volume will contain documentary material. The chronological volumes will focus on OSD-level policy direction and Service-level execution of defense acquisition. The target audiences for these volumes and the project's symposia and lectures will be drawn from the ranks of the U.S. Government's defense acquisition and history communities.

The project began in October 2000 with the U.S. Army Center of Military History as its executive agent. Science Applications International Corporation (SAIC) of McLean, Va., is managing the project in its initial year. For more information on the DAH Project, visit <http://www.army.mil/cmnh-pg/acquisition/acqhome.htm>.

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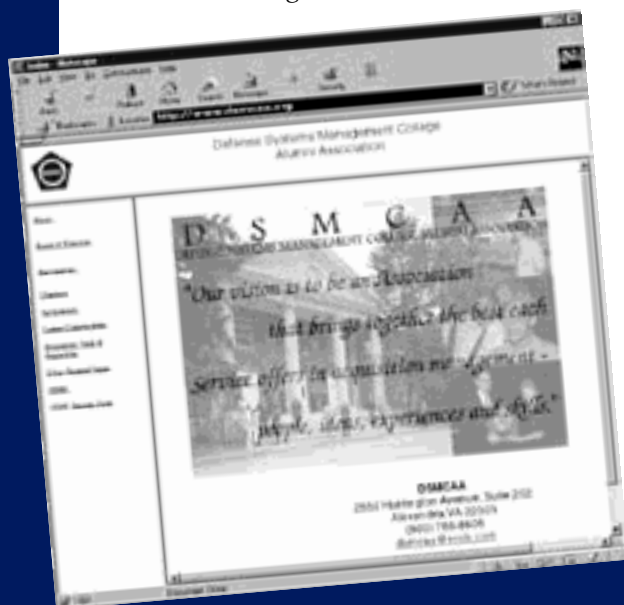
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First Round of Business Initiatives Formalized

Members of the Business Initiative Council (BIC) have approved a broad range of initiatives designed to improve business operations in the Department of Defense. Potential savings of more than \$200 million are expected as a result. This first round of initiatives addressed specific areas of personnel management, operating procedures, and acquisition management.

The council, established and presided over by Under Secretary of Defense for Acquisition, Technology and Logistics Pete Aldridge, is comprised of the military Service Secretaries and the Vice Chairman of the Joint Chiefs of Staff. The BIC began work in July to implement bureaucracy-reducing or money-saving opportunities in the business practices of the Department of Defense. This is part of Secretary Rumsfeld's broader "Battle on Bureaucracy."

"We on the BIC and those who support our efforts are proud to be contributing to the Secretary's initiative," said Aldridge.

The approved personnel projects include streamlined hiring procedures and enhanced flexibility managing civilian and military personnel levels. Changes in department operations addressed procedures for expanding the recovery of overpayments and simplifying certain financial transfers. The council also approved an initiative aimed at overcoming rising costs of cell phone bills by leveraging the large-scale purchasing power of the Department to negotiate significantly lower charges with local or regional providers.

This same "bulk-buying" concept will also be used with an expansion of the Enterprise Software Initiative to streamline the acquisition process for commercially available software products. Also approved was an initiative to move to wider use of Web-based processing of invoices and a plan to use a Web-based tool to coordinate schedules and avoid unnecessary delays at the Department's test ranges and facilities.

The BIC also approved developing a common flight clearance process using information technology to reduce clearance turnaround time.

"Our criteria are simple. Before it can win adoption by the BIC, each proposal must show benefit for our warfighters, provide common good across DoD, and provide identifiable savings," said Aldridge.

This first set of initiatives is laying the foundation for future efforts by the BIC to identify and implement promising ideas, and to improve the way business is conducted throughout the Department of Defense. "This is only the beginning. We have many more initiatives under study that should contribute to more savings and improved efficiency," adds Aldridge.

Details of the first set of BIC initiatives are on DefenseLINK at <http://www.defenselink.mil/news/Oct2001/d20011015bic.pdf>.

Editor's Note: This information is in the public domain at <http://www.defenselink.mil/news>.

Leading the Transformation

RAH-66 Comanche Enters EMD Phase of Systems Acquisition Life Cycle

LT. COL. FORREST HENDRICK, USA

The RAH-66 Comanche aircraft is the U.S. Army's next generation reconnaissance, security, and light attack helicopter and is an essential element of Army Transformation. This aircraft will replace the Army's aging fleet of OH-58D Kiowa Warrior aircraft in the required mission roles beginning around the fiscal 2007 timeframe. Able to perform air combat operations and all operations under limited visibility, day or night, the Comanche RAH-66 will use Low-Observable (LO) technologies to enhance mission effectiveness and capability.

A fully integrated, lightweight, low-cost, twin-engine, two-pilot, advanced technology helicopter weapons system, Comanche is intended to enhance commanders' ability to project, protect, and sustain the force; gain information dominance; shape the battlespace; and conduct decisive operations, while increasing operator and maintainer efficiency. It will perform these missions in support of the Regimental Cavalry, Division, or Corps commanders' scheme of maneuver. As spelled out in Part I, *RAH-66 Comanche Test and Evaluation Plan*, 1999, the Comanche will operate with the UH-60 and AH-64 aircraft and will be interoperable with Joint Forces.

Comanche improvements over the Kiowa Warrior system include:

- Composite airframe structures
- Protected anti-torque systems
- Low-vibration, high-reliability rotor systems



RAH-66 Comanche aircraft.

- Reduced signature
- Built-in diagnostics/prognostics
- Second-generation target acquisition and night vision sensors
- Comanche radar.

The Comanche electronics architecture will incorporate integrated communi-

cations, navigation, and identification avionics modules, and integrated electronic warfare systems technology. The Under Secretary of Defense for Acquisition, Technology and Logistics Defense Acquisition Board (DAB) approved the RAH-66 for entry into the Milestone II Engineering, Manufacturing, and De-

Hendrick is the Army National Guard Aviation Advisor to the Aviation and Missile Command and a member of the Acquisition Corps.

velopment (EMD)/Milestone B phase of the acquisition life cycle in April of fiscal 2000.

The EMD phase of Comanche development will test various aspects of the system to mature the technology necessary to ensure a successful program. The Comanche Test and Evaluation Master Plan incorporates several innovative approaches. For the first time, Army Aviation has initiated a major



weapon system acquisition of this type, with a two-company industry prime team performing the design, development, and production. This approach offers many potential advantages and disadvantages. To reduce risk and increase the overall likelihood of program success, established key exit criteria will guide the Test and Evaluation (T&E) effort. The following list summarizes the Milestone II exit criteria approved by the DAB:

- Vertical rate of climb
- Night forward-looking infrared radar recognition range
- Radar Cross Section (RCS) signature
- Infrared (IR) signature
- Ballistic vulnerability
- Readiness
- Support and demo of reduced-size Comanche radar antenna.

Comanche T&E Organization

Crucial to the overall success of Comanche development is the Test and Evaluation Integrated Process Team (T&E IPT). The Comanche Program Manager is responsible overall for the developmental T&E program and serves as chairman of the T&E IPT. The Assistant Program Manager for T&E is the central point of contact for T&E-related direction and guidance for the Comanche program. An IPT guides the overall T&E effort for Comanche. All Comanche test requirements are integrated through the T&E IPT. The chart at the top of the next page describes the Comanche T&E IPT membership.

The Comanche Program Office will use a Combined Test Team (CTT) to support the overall T&E effort. As the primary test execution arm of the T&E IPT, the goal of the CTT is to reduce redundant testing through a continuous combined government and industry T&E process. The CTT is a combined government-industry team of engineers, users, the Army Test and Evaluation Command (ATEC), the Army Training and Doctrine Command, the Defense Logistics Agency, the Light Helicopter Turbine Engine Co., U.S. Army Simulation, Training and Instrumentation Command, and the Army Research Lab. With unrestricted access to data, the CCT will be involved in the following:

- Airframe Development
- Flight Controls Development Handling Qualities
- Armament Fire Control Systems
- Propulsion Systems
- Environmental Testing
- Survivability Demonstrations
- RAM Analysis
- Logistics Supportability

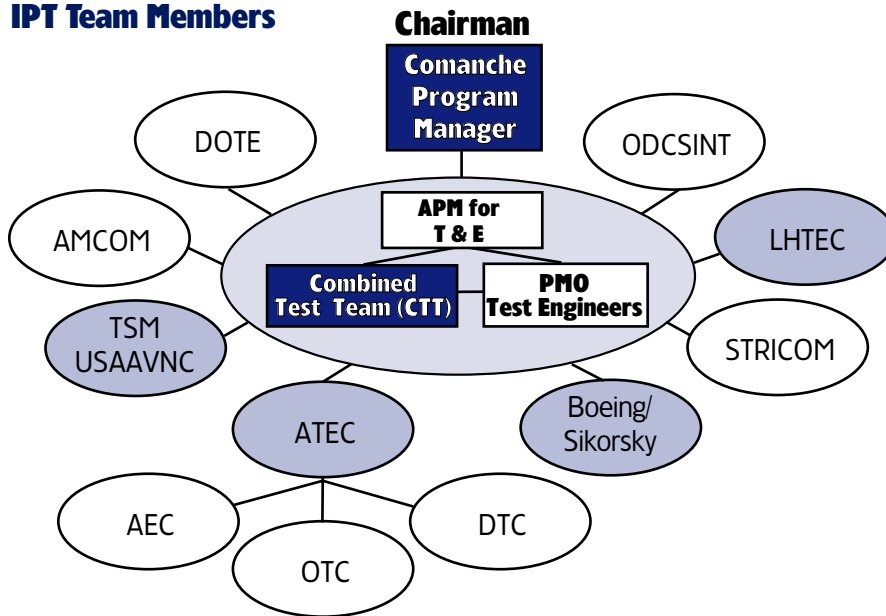
- Electromagnetic Environmental Effects
- Manpower and Personnel Integration
- Shipboard Compatibility
- Embedded Computer Resources
- Self Deployment
- Integrated Training Program
- Live, Virtual, and Constructive Simulation Events
- Real-time Feedback of Developmental and Operational Issues.

**THE COMANCHE
CONTINUES TO FACE
TECHNOLOGICAL
CHALLENGES THAT
MAY CAUSE
DIFFICULTY FOR THE
MOST WELL-PLANNED
SCHEDULES. THE
EFFECT OF THESE
CHALLENGES ON
PROGRAM COST,
SCHEDULE, AND
PERFORMANCE MUST
BE WEIGHED
CAREFULLY TO
ENSURE THAT THE
ARMY RECEIVES THIS
CRUCIAL AVIATION
ASSET.**

EMD Development Phase

Developmental testing of the Comanche began in 1995 and will continue through fiscal 2006. The majority of the developmental testing on the air vehicle was completed during the 1995 to 2000 timeframe. Live fire testing began in fiscal 1999 and will continue in phases up through fiscal 2006. The EMD phase of the Comanche, which began with approval to enter Milestone

IPT Team Members



II in March 2000, will include: continuation of aerodynamic envelope and structural integrity determination; integration of the Target Acquisition System (TAS); integration of the T800/T801 growth engine; and T&E of critical airframe and full Mission Equipment Package (MEP) system performance. The objectives of T&E during this phase include verification of EMD progress and certification of readiness for dedicated operational testing as evaluated against the system specification and the Operational Requirements Document (ORD).

EMD T&E Key Points

Two prototype aircraft have been in operation since January 1996 performing required aerodynamic and other tests. These aircraft will conduct a series of developmental tests during EMD with combined contractor and government aircrews. This early involvement of military aircrews in the developmental process will strengthen the outcome of the T&E program for the Comanche.

Electro-Magnetic Compatibility, LRIP Aircraft

Prototype aircraft will complete important electro-magnetic compatibility testing during the EMD phase. A total of six aircraft will perform a total of 2,774 flight hours during the EMD phase of development. Four additional

pre-Low Rate Initial Production (LRIP) aircraft will be produced in the fiscal 2004 timeframe.

Comanche MEP Subsystems

Further EMD testing on Comanche MEP subsystems will be conducted, such as electro-optical sensor system, target acquisition designation system, night vision pilotage system, pilotage, target classification, and aircraft survivability equipment. The majority of the MEP T&E will occur during the later stages of the EMD phase due to early program funding constraints. This fact may be a cause of increased program risk to the overall Comanche program.

Propulsion System Test Bed

The Propulsion System Test Bed (PSTB) will provide the opportunity to developmentally test the Comanche engines and power train for up to 1,350 operating hours. The PSTB is a fixed-base power train prototype designed specifically to test the dynamics of Comanche's power train system. The PSTB will allow full power dynamic load testing of the entire Comanche power train system. In fiscal 2004, PSTB testing will continue with an upgraded engine and power train components. PSTB developmental testing will offer the opportunity to significantly reduce risk during system development and ensure program success.

LO and RCS

Evaluation of the LO and RCS of the Comanche will occur during EMD. Aircraft LO, RCS, infrared visibility, and acoustic testing are of primary interest during this phase. Testing will occur on contractor and government instrumented testing facilities. During this time, Comanche prototype or pole model aircraft replicas will be modeled against threat systems for observability and survivability. The RCS signature of the aircraft in millimeter wave frequencies will be determined during pole testing. Testing in representative field environments and flight envelopes will provide an opportunity to assess the durability of the aircraft materiel as well as effectiveness of the maintenance/materiel process in restoring the aircraft's RCS signature.

IOTE

Prior to entrance into Initial Operational Test and Evaluation (IOTE), the software configuration of the Comanche will be frozen. Outstanding Priority 1 or 2 Software Trouble Reports (STR) will be eliminated prior to IOTE. The user representative will approve STR priority 3 deficiencies that remain open, and also determine if the prescribed workarounds are acceptable prior to IOTE. Any deferred solutions to STRs will be approved by the user and identified as to when, in the future delivery of software, these STRs will be resolved.

V&V

The Comanche software will undergo a series of 12 Independent Verification and Validation (V&V) activities during developmental testing, resulting in the following products: the software development plan, the system/segment specifications, the system/segment design documents, the software requirements specifications, software design documents, interface requirements specifications, interface design documents, informal software test plans, informal software test descriptions, informal software test reports, software quality program plan, and the computer resources integrated support document. Management quality indicators will be used to assess control of software development.

The prime contractor team provided the indicators at the completion of Program Definition and Risk Reduction (PDRR). These management indicators provide visibility into the current management and programmatic issues, whereas the quality indicators provide visibility into the quality of the resultant software products. Thirteen discrete evaluation factors are established to gauge the readiness of the Comanche software development effort.

M&S

The Comanche EMD T&E program will make extensive use of Modeling and Simulation (M&S) technology. M&S technologies will increase opportunities for success by reducing overall EMD costs and bridging the gap between test conditions and the conditions cited in the ORD, where actual testing cannot duplicate the required environment. Some of the modeling techniques that will be used by the Comanche CTT follow:

- The Advanced Tactical Combat Model, a man-in-the-loop simulation designed to test survivability against IR and Radio Frequency threats.
- The Interactive Tactical Environment Management System, which will simulate threat and friendly battlefield environments.
- Modular Semi-Automated Forces that enable construction of Distributed Interactive Simulations and computer-generated force applications.
- The Laser Designation Weapon System Simulation Model, which models the kinematics and dynamics of semi-active laser-guided weapons.
- ACQUIRE, which will facilitate determination of the probability of detection of an IR source target as a function of range.
- Modular Unix-based Vulnerability Estimation Suite S2 (Stochastic Analysis of Fragment Effects/Stochastic Qualitative Analysis of System Hierarchies), which is a point burst vulnerability/lethality modeling system under development by the Survivability/Lethality Analysis Directorate of the Army Research Lab that will model the effects of indirect fire frag-

menting munitions, armor piercing, high explosive, high explosive incendiary, and small projectiles.

- The Evaluation of Air Defense Effectiveness Model, which will model many-on-many aircraft engagements and is similar to the Advanced Tactical Combat Model except it does not have a man-in-the-loop capability.
- The Terrain/Rotorcraft Air Combat Evaluation Simulation, which will allow air-to-air combat simulation evaluations.

This partial list of M&S techniques indicates the high level of M&S the Comanche program will use during the EMD phase. The experience and knowledge gained through these M&S technologies will reduce cost, reduce risk, and provide significant insight into overall Comanche performance characteristics. The M&S techniques will also provide considerable information on the development of training tactics, techniques, and procedures; as well as subsystem or MEP performance.

The Key to Program Success

The Comanche Program Manager structured the EMD phase of the Comanche system development with an extensive set of live and M&S test events and processes to ensure system effectiveness, within resource constraints, to meet the future goals of Army Aviation. Comanche has already achieved many successes during development that will increase the capability and lethality of Army Aviation in any future conflict.

As in previous leading-edge technology development programs, the Comanche continues to face technological challenges that may cause difficulty for the most well-planned schedules. The effect of these challenges on program cost, schedule, and performance must be weighed carefully to ensure that the Army receives this crucial aviation asset.

The MEP developmental testing is occurring late in the developmental life cycle of system acquisition. The primary reason for this shortfall is a lack of funding for the required high-cost testing and developmental efforts during the

PDRR phase of Comanche development. This delayed testing could have significant effects on the overall cost and schedule of Comanche development and fielding. Research and development testing for a system of this type is resource-intensive and is stretching the technological capabilities of industry and government. An additional area of risk is the uncertainty in the delivery of the planned technology that would decrease overall Comanche weight, allowing it to achieve overall performance requirements.

**ABLE TO PERFORM
AIR COMBAT
OPERATIONS AND ALL
OPERATIONS UNDER
LIMITED VISIBILITY,
DAY OR NIGHT, THE
COMANCHE RAH-66
WILL USE LOW-
OBSERVABLE (LO)
TECHNOLOGIES TO
ENHANCE MISSION
EFFECTIVENESS AND
CAPABILITY.**

A Government Accounting Office (GAO) Report #NSIAD-00-199 indicates that the DoD is requiring too many system-level tests on DoD weapon systems. Reporting that the inordinate amount of testing imposed on weapon system development is neither necessary nor fiscally responsible, GAO goes on to cite that DoD T&E is viewed as a pass-fail event and not designed to improve overall system capability or performance.

An additional shortcoming identified by the GAO is the DoD philosophy that success or failure during key testing events is closely linked to continued or decreased funding for weapon system

programs. If the Comanche program requires the same level of testing as indicated by the GAO, in all likelihood this effort could additionally affect the planned development schedule, cost, overall program risk, and planned Initial Operational Capability date.

To ensure Comanche program success, the program office, the ATEC, the Director of Operational Test and Evaluation, acquisition leaders, industry, and the user must maintain their strong relationships and establish agreements that will ensure this critical Army Aviation asset is delivered when required. The outcome of this effort will ensure that our soldiers and aircrews will have the most capable, safe, and reliable helicopter weapons system in the world – the RAH-66 Comanche.

Editor's Note: The author welcomes questions or comments on this article. Contact him at Forrest.Hendrick@redstone.army.mil.

Customary Progress Payment Rate For Large Business

Deidre A. Lee, the Director of Defense Procurement, announces a change to the Defense Federal Acquisition Regulation Supplement (DFARS) that increases the progress payment rate for large businesses from 75 percent to 80 percent. The progress payment rate change will apply only to contract awards made on or after Oct. 1, 2001. Contracts awarded before Oct. 1, 2001, will not be modified to include the 80 percent rate. This change will establish a progress payment rate for large businesses under DoD contracts that matches the rate currently used by other federal agencies. For additional information, contact Sandra Haberlin at (703) 602-0289 or via e-mail: sandra.haberlin@osd.mil.

DAU LAUNCHES NEW WEB SITE

Continuous Learning Center Now Online

If you're looking for continuous learning opportunities for yourself or your colleagues, point your Internet browser to DAU's new Continuous Learning Center (CLC) Web site, <http://clc.dau.mil>. Activated July 9, 2001, the CLC has a wide variety of online continuous learning modules available, with more being added in the future. Topics range from Commercial Off-the-Shelf Acquisitions to Requirements Generation. Visit <http://clc.dau.mil> often, anytime, anywhere, from the convenience of your Internet-capable PC, to earn continuous learning points, learn about new acquisition policies and tools, or to brush up on your acquisition skills.

We welcome your comments and feedback, so take advantage of this easy-to-use 24/7 resource, become a regular visitor, and become a more productive and more effective member of the acquisition workforce.

<http://clc.dau.mil>



Defense Acquisition University Announces Appointment of Regional Deans

CAPITAL AND NORTHEAST REGION

John T. "Tim" Shannon, Dean of Faculty, Defense Systems Management College (DSMC), Fort Belvoir, Va., was named Dean, Defense Acquisition University (DAU) Capital and Northeast Region, effective Sept. 4, 2001. Shannon has served as Dean of Faculty since May 8, 1998. He first joined the DSMC faculty in February 1991 after 21 years' military service with Department of Navy. During his DSMC tenure, he served as an instructor in the Funds Management Department, and went on to assume increased levels of responsibility as Business Department Scheduler; Department Chair, Funds Management Department; and Associate Dean of Faculty. A graduate of the U.S. Naval Academy, Shannon holds a master's in Business Administration from the Naval Postgraduate School.



MID-ATLANTIC REGION

Barbara Smith was named Dean, DAU Mid-Atlantic Region, Patuxent River Naval Air Station, Patuxent River, Md., effective Sept. 24, 2001. Prior to joining DAU, Smith was the V-22 "Osprey" Deputy Program Manager at Naval Air Systems Command (NAVAIR), Patuxent River. Smith began her federal career as a Reliability Engineer on avionics and propulsion systems for the F-18 A/B program at NAVAIR. In 1978, she moved to Sikorsky Aircraft Company and helped develop the LAMPS Mark III Life Cycle Cost program, followed by an assignment as Proposal Manager for the SH-60F helicopter. Returning to NAVAIR, she spent five years in the AV-8B Program (PMA-257), guiding the development and transition of the AV-8B for the U.S. Marine Corps Fleet Marine Force.



SOUTH REGION

James L. "Jim" McCullough II was named Dean, DAU South Region, Huntsville, Ala., effective Oct. 22, 2001. McCullough has held a wide diversity of acquisition leadership positions in both government and industry, spanning a 32-year career. He comes to DAU from E-OIR Measurements, Inc., where he served as President and Chief Operating Officer since July 1999. He was also a senior consultant at E-OIR, supporting major customer programs for sensor science, systems acquisition, systems integration and advanced learning studies. Prior to joining E-OIR, he held key positions at Nichols Research Corporation from 1990 to 1999, including Corporate Vice-Pres-



ident and Director for Corporate Horizontal Integration of Command, Control, Communications, Computers and Intelligence (C4I); Director for the Joint Test and Evaluation program; and Business Unit leader for Defense Systems Integration. In 1990, McCullough retired from the U.S. Army where he held various infantry field assignments as well as program management positions that directly contributed to the development of advanced technology. He holds an Engineering degree from the U.S. Military Academy and a master's in Procurement from Florida Institute of Technology.

MIDWEST REGION

Jerry Emke was appointed Dean, DAU Midwest Region, Wright-Patterson AFB, Ohio, effective Oct. 7, 2001. Emke joins the University from his previous assignment as Deputy Commander of the Defense Contract Management Command Agency West (DCMAW), Lockheed Martin, Sunnyvale, Calif., a position he assumed in December 1999. Emke began his federal career in 1981 as a Quality Assurance Intern, assuming increased levels of responsibility over the years as a Quality Assurance Specialist, Quality Program Manager, Director of Quality Assurance, International Quality Assurance Chief, Contracts Operations Examiner, Operations Group Leader, Technical Assessment Group Chief, and Deputy Commander. Emke holds a master's degree in Industrial Management from Central Michigan University and a bachelor's degree from Wayne State University.



WEST REGION

Retired Air Force Col. Andrew A. Zaleski II was named Dean, DAU West Region, San Diego, Calif., effective Oct. 7, 2001. He joins DAU West from his previous position at DAU Headquarters where he has served as Director, Strategic Planning Action Group, Fort Belvoir, Va., since Jan. 4, 2001. Zaleski's first association with DAU-DSMC was an assignment as Dean and Air Force Element Commander at the Fort Belvoir main campus from 1991 to 1995. After his retirement from the Air Force in 1995, Zaleski joined private industry for the next five years, primarily as the Washington Area Operations Manager for TECOLTE Research. He also served as a consultant to DynCorp and as the Vice President of New Business Development for the NEXT STEP Training Company. A graduate of the U.S. Military Academy, Zaleski holds two master's degrees from the University of Southern California.



DAU Hosts Second Business Managers' Conference

Evolution of the Acquisition/Financial Management Workforce

JONI FORMAN

Department of Defense (DoD) business management professionals gathered at the Fort Belvoir campus of Defense Acquisition University (DAU) for the second annual Business Managers' Conference. Held June 12-13, the conference theme was "New Era of Innovative Business Management: Evolution of the Acquisition/Financial Workforce." This two-day Conference brought together senior DoD acquisition and comptroller executives as well as Program Executive Officer/Program Manager/Systems Command (PEO/PM/SYSCOM) Business Managers/Program Control Chiefs, and Service Headquarters business staff for wide-ranging discussions on acquisition and financial topics.

The Conference objectives were to provide an exchange of best practices and processes used within the acquisition and comptroller communities and to provide updates/discussions on acquisition, financial management, and legislative initiatives. Each presentation included ample time for questions, while conference speakers and the audience engaged in spirited give-and-take throughout the conference.

Keynote Address

Hosting this year's conference was Dr. Nancy Spruill, Director, Acquisition Resources and Analysis, Office of the Under Secretary of Defense (Acquisition, Technology and Logistics). She opened the

conference by welcoming and introducing E.C. "Pete" Aldridge Jr., the conference keynote speaker. Aldridge was confirmed May 8, 2001, as the Under Secretary of Defense (Acquisition, Technology and Logistics). His presentation provided one of the first opportunities for the acquisition community to become acquainted with the new Defense Acquisition Executive. Aldridge summarized his five key goals:

1

Achieve credibility and effectiveness in the acquisition and logistics support process. High-priority actions in this area include improving the Defense Acquisition Board (DAB), promoting spiral development, budgeting to realistic cost es-



E.C. "Pete" Aldridge Jr., Under Secretary of Defense (Acquisition, Technology and Logistics) delivers conference keynote address.



From left: DAU Commandant, Army Col. (P) James R. Moran; Joni Forman, Chair of the Acquisition/Financial Management Certification Panel; and Aldridge.

Forman is Deputy Executive Director for the Curriculum Development and Support Center, Defense Acquisition University, Fort Belvoir, Va.



Dr. Nancy Spruill, Director, Acquisition Resources and Analysis, OUSD(AT&L), welcomes the conferees.

force – what kind of skills mix do we need?”

3

Improve the health of the defense industrial base. Aldridge noted, “If we’re to have the best weapons in the world, we need to have the strongest industry to support them.” Actions he intends to take in this area include eliminating barriers to commercial companies entering the defense business, developing a plan to share savings from reducing excess capacity, and re-examining DoD profit policy.

“We need to recognize that companies have a choice with whom to do business. We have to make DoD a better cus-



Mary Starks (left) visits the DAU Exhibit. Greeting her is Sharon Richardson, Director, DAU Center for Business.

tomizes, reducing cycle time, and reinvigorating e-Business.

2

Revitalize the quality and morale of the DoD acquisition, technology, and logistics workforce. Aldridge noted that half of the acquisition workforce is expected to retire in the next five years, which will require significant recruitment and training of new acquisition professionals and managers. He stated that, “We need to have a strategic plan for the acquisition work-

tomers. We need to look to bring in more commercial practices. And we should recognize profitability for high performance,” he stated.

4

Rationalize the weapons systems and infrastructure with defense strategy. This includes ensuring that the soon-to-be-released defense strategy is properly supported, both by the weapons systems procured and the infrastructure maintained.

5

Initiate high-leverage technologies to create the warfighting capabilities, systems, and strategies of the future. Aldridge stated that, “We need to initiate new ideas and war-winning technologies.” He cited the need to provide increased funding for the Defense Advanced Research Projects Agency and for Advanced Concept Technology Demonstrations; and the need to encourage more widespread use of non-defense technologies.

Aldridge emphasized the importance of looking at total systems costs, not just acquisition costs, for new and existing systems. He stated: “Life cycle cost [LCC] has to be part of the decision process, up front. It has to be part of the requirements process for consideration of alternatives. It has to be considered by the DAB. A key question has to be: *Has the program done all it can to reduce LCC?*”

Aldridge stated that pricing is key to stability in weapons programs. “If you properly price a program when you start it and put in adequate reserves, you have stabilized the program. You do not have to go back and ask for more money, which robs other programs.”

He also discussed the importance of modernizing DoD financial systems. “We have an archaic financial system in DoD. The DoD financial system has been a budgeting system, not a system for financial management.” Aldridge stated his belief that Activity Based Costing is a key DoD reform in the coming years.

Acquisition/Financial Management Panel

Robert Nemetz, Deputy Director, OSD Acquisition Resources and Analysis, chaired a panel on Acquisition and Financial Management. Panel members included:

- Blaise Durante, Deputy Assistant Secretary of the Air Force, Management Policy and Program Integration
- Joseph Kammerer, Deputy Assistant Secretary of the Air Force, Cost and Economics

- Robert Young, Acting Principal Deputy and Deputy for Cost Analysis, Assistant Secretary of the Army for Financial Management
- Gladys Commons, Principal Deputy Assistant Secretary of the Navy (Financial Management and Comptroller)
- Tracy Goldstein (Army Plans, Programs, and Resources).

Each of the panel members gave an overview of key acquisition and financial management issues affecting his or her organization. Durante stated that retirements will cause significant dislocations in the acquisition workforce in the next few years. "One day you wake up and all the experience is out the door," he stated.

Kammerer noted that the new Secretary of the Air Force has made Activity Based Costing/Activity Based Management (ABC/ABM) one of his top priorities. He said that the Air Force went to each major command and requested that each select one base to experiment with ABC/ABM. As an incentive, participating organizations are allowed to retain any savings they identify for the first year after the savings are received.

Young agreed that ABC will be beneficial. "To do the job, our managers need managerially relevant information; the current system does not provide it ... Putting ABC systems in place will give the financial manager information to support his or her requirements," he said.

Commons discussed the potential benefits of Enterprise Resource Planning (ERP), which can "bring together all the information a commander needs to have about the organization he or she runs." She emphasized the importance of the business and financial manager (BFM). "We're looking to you to put together a program that is defensible, that can go forward to OMB [Office of Management and Budget] and Congress." However, constrained spending is a reality. "We do not have enough money to modernize our equipment," she said. "Our inventory is old and it costs more to sup-

port, so our O&M [Operations and Maintenance] budgets are increasing at the expense of modernization."

Commons also mentioned the implications of changes in the workforce and the need for workforce planning. "The future workforce will not be like me, working 30 years for the government. The future workforce will be much more mobile, [and] will move in and out of government," she said. She noted that as the current workforce retires, "There will be tremendous opportunities for the new workforce," including quicker promotions. Training will become increasingly important in the future, she said.

Acquisition Workforce of the Future

Keith Charles, Director of DoD's Task Force on the Acquisition Workforce of the Future, presented an overview of the Task Force's final report. He noted that the acquisition workforce has already been cut in half in the past decade, and that "50 percent of the workforce will leave in little more than four years."

Charles stated that this represents a major challenge for managers, who will soon be experiencing significant shortfalls of experienced personnel. It will also force workforce planners to adopt innovative methods to attract and retain personnel. "Is there any other function in DoD that touches the warfighter more closely?" he asked.

Charles argued that strategic planning for human resources is the key to effective workforce management, including needs identification, workforce supply and demand analysis, investment analysis, and career development planning. He described several potential remedies for workforce shortfalls, including recruitment, retention, or relocation bonuses to attract and retain the right skills mix of people; exchange programs with industry; and acquisition demonstration projects that provide increased authority for the hiring managers.

The Task Force report can be found at: <http://www.acq.osd.mil/yourfuture/>.

DoD 5000 Update

Mona Lush, OSD Acquisition Resources and Analysis, provided an update on the new DoD regulation on major systems acquisition. The principal purposes of the revised acquisition policy are to:

- *Deliver advanced technology to the warfighter more quickly.* The new acquisition process provides for rapid acquisition with demonstrated technology and full-system demonstration before there is a commitment to production.
- *Reduce total ownership costs and improve affordability.* Cost is recognized as a requirement that drives design, procurement, and support.
- *Deploy interoperable and supportable systems.* Interoperability should be demonstrated prior to production, and logistics concerns should be integrated into the acquisition process.

The old acquisition process only addressed systems acquisition, rather than addressing the entire acquisition system. It treated evolutionary approaches as a "non-traditional" excursion rather than as the preferred acquisition approach, and it failed to provide firm decision criteria and amplifying guidance for tailoring acquisition approaches. New features of the redefined acquisition process include a focus on ownership costs (rather than only on acquisition costs), affordability, supportability, and interoperability.

The new DoD leadership has been briefed and is strongly supportive of the new policy changes. No substantive changes in law are required, though the attitude of Congressional leadership toward any new DoD policy is an important consideration. Lush reported that the new 5000 does not make changes in key areas of traditional Congressional concern, such as Congressional oversight and control of funds.

DCMA Initiatives

Army Brig. Gen. Edward M. Harrington, Director, Defense Contract Management Agency (DCMA), described how DCMA supports the acquisition process. He noted that DCMA is now

an independent agency, reporting directly to the Principal Deputy Under Secretary of Defense (Acquisition, Technology and Logistics). Its mission has evolved considerably over the years. "Lots of people still see us in the old post-award, contract administration role, and that is still a core function, but we are engaged across the entire system life cycle," he stated.

Harrington noted that Earned Value Management (EVM) is one area where DCMA plays an especially important role. DCMA is the DoD Executive Agent for Earned Value Management Systems (EVMS). It is DCMA's role to:

- Ensure that there is consistent DoD policy implementation of EVM
- Address EVM issues across and between DoD and industry
- Partner with industry to ensure EVMS ownership at the corporate level.

DCMA also has been active in the formation of Management Councils, which are a coalition of the customer, DCMA, the Defense Contract Audit Agency, and contractors. Management Councils are an outgrowth of the effort to implement the Single Process Initiative, and they serve as a forum to communicate ideas and accelerate process improvements. "Where we've done these Management Councils, we get a lot of break-even very quickly," stated Harrington. "But the real benefit is over the long run. Over future contracts, it pays back big benefits."

DCMA has also been active in stimulating electronic commerce throughout DoD, analyzing industrial capabilities, reviewing overhead rates, and stimulating the transition to performance-based payment systems.

Joint Strike Fighter

Air Force Col. Robert P. Lyons Jr., Director, Joint Strike Fighter Engineering and Manufacturing Development, described how cost management has influenced the development of the Joint Strike Fighter (JSF). "It all started with a four-star warfighter saying 'This is all I'll pay'," Lyons said. "We spend all our

time trying to keep this affordable to buy and own. Nobody has ever done that before."

Lyons stated that the target Unit Recurring Fly-away cost "has been the biggest driver of our decisions." Logistics cost and supportability have also been major concerns to the system's developers. Lyons noted that three of the eight system Key Performance Parameters are based on logistics:

- Reduced logistics footprint
- High sortie generation rate
- High mission readiness rate.

He concluded that the experience of the JSF shows that a system acquisition placing emphasis on acquisition and support cost can be successful, but it takes a lot of work. Pre-defined goals and constraints on cost and performance are important; without them, both users and designers are likely to revert to "business as usual," with increasing requirements and a decreased attention to cost and supportability. The users and developers must work together continuously as a team to fully understand the cost and performance issues they are facing. Lyons said that "...these Cost As an Independent Variable (CAIV) concepts have driven the JSF development program from the beginning."

Acquisition/Financial Management Certification

Conference planners originally planned to discuss the topic of certification in a breakout session, but interest ran so high that it was presented to the entire group. Joni Forman chaired the panel, which consisted of:

- Frank Arcari, Associate Director for Certification, American Society of Military Comptrollers (ASMC)
- Wilett Bunton, Program Manager – Comptroller Proponency Office, Office of the Assistant Secretary of the Army (Financial Management)
- Debbie Eschmann, Acting Director for Professional Development, Office of the Assistant Secretary of the Air Force, Comptroller Support (Financial Operations)

Exhibits

Before and after the conference sessions and during breaks, attendees viewed a number of exhibits on knowledge management, financial management, career management, and other subjects of interest to business managers. The exhibits included:

- Army Knowledge Management Initiative (Wes Welch)
- Navy Knowledge Management Initiative (Jim Kantner)
- Army Cost and Economic Analysis Center (Mike Matthews and Stephen Pawlow)
- Defense Acquisition University (Sharon Richardson)
- Naval Financial Management Career Center (Tom Steinberg and Sandi Palmer)
- Information Assurance Training and Awareness (Nancy McClellan and George Bieber)
- Army Acquisition Information Management (Sheila Wyatt)
- Army Acquisition Career Management (Patricia Hobson)
- Enterprise Software Initiative (Rex Bolton and Navy Cmdr. Jim Clausen).

- Thomas Steinberg, Director, Naval Financial Management Career Center.

Forman introduced the panel members and briefly described the Business, Cost Estimating, and Financial Management (BCEFM) certification process. The BCEFM process is one that the acquisition business workforce is most familiar with, but many workers are concerned with possible overlap with the Services' Financial Management certification programs. The BCEFM certification program requires eight courses to become Level III-certified, and also encourages the taking of other business courses to meet a continuous education requirement. Several courses are now available through distance learning to

DoD Acquisition/Financial Managers Convene Second Business Managers' Conference

Acquisition/Financial Management Panel . From left: Blaise Durante, Deputy ASAF, Management Policy and Program Integration; Robert Young, Acting Principal Deputy and Deputy for Cost Analysis, ASA, Cost and Economics; Gladys Commons, Principal Deputy ASN (Financial Management and Comptroller); Tracy Goldstein (Army Plans, Programs, and Resources); Joseph Kammerer, Deputy ASAF, Cost and Economics; and Robert Nemetz, Deputy Director, OSD Acquisition Resources and Analysis.



1

1. Keith Charles, Director of DoD's Task Force on the Acquisition Workforce of the Future, presents an overview of the Final Report. .

2. Don Barker, Deputy PEO, Tactical Missiles, and Marie Greening, Program Manager, Aviation Support Equipment, participate in PEO/PM/BFM Panel.

3. Air Force Col. Robert P. Lyons Jr., Director, Joint Strike Fighter Program.

4. Dr. Robert Bohls, Professor of Financial Management, DSMC, speaks on Data Analysis at a Breakout Group session.

5. John Hickok, DAU Knowledge Management Officer, speaks on Knowledge Management during a breakout group session.

6. Army Brig. Gen. Edward M. Harrington, Director, Defense Contract Management Agency.

7. Mona Lush, OSD Acquisition Resources and Analysis.

8. Dr. Jay Mandelbaum, Office of the Deputy Under Secretary of Defense for Acquisition Initiatives, discusses Knowledge Management during a breakout group session.

9. Navy Cmdr. Jim Clausen and Emily Urban review handouts at Navy Chief Information Officer exhibit.

10. Pat Zarodkiewicz, Director, Budget Investments, U.S. Air Force, speaks on New Starts.

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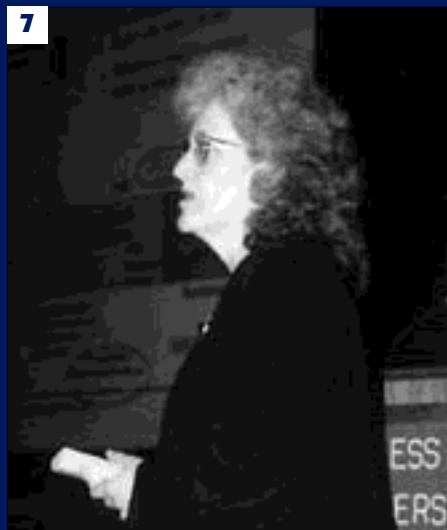


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“New Era of Innovative Business Management: Evolution of the Acquisition/Financial Workforce”



Certification Panel: Joni Forman, OSD Acquisition Resources and Analysis; Wilett Bunton, Program Manager – Comptroller Propensity Office, Office of the ASA (Financial Management); Thomas Steinberg, Director, Naval Financial Management Career Center; Debbie Eschmann, Acting Director for Professional Development, Office of the ASAF, Comptroller Support (Financial Operations); and Frank Arcari, Associate Director for Certification, American Society of Military Comptrollers.



help reduce travel costs and time away from the office. Modifications to the BCEFM curriculum are being considered to reduce overlap with other certification courses.

The BCEFM web site is found at: http://center.dsmc.dsm.mil/Topical_Sessions_templates/FM_Main/template.html/.

Steinberg described the Navy's certification process. The objectives of certification are to establish an objective measure of an individual's knowledge and competence, encourage higher educational standards, and encourage continued professional development. But, Steinberg noted, "We don't see it as a requirement [for promotion]; it's a selection factor."

Bunton described the Army program, which is applicable to all individuals involved in the Comptroller career program, whether military or civilian. "The Comptroller Accreditation Program guides the career development of Army financial management civilian and military professionals. Accreditation assesses Comptroller careerists' credentials by identifying achievement levels in education, training, and experience requirements. The program formally recognizes an individual's demonstrated performance and capabilities. The Comptroller Accreditation Program ensures that financial management professionals possess and maintain identified core competencies in Financial Stewardship, Financial Decision Support, and Leadership and Organizational Management." The Army Comptroller Accreditation Program is described more fully at www.asafm.army.mil/.

Eschmann stated that the Air Force program emphasizes "continuing professional education and broadening skills." Level certification is the measure of merit of Air Force Financial Management professional development. Each level builds on the other until Level III is obtained. Levels are based on general education, professional/military education, experience, relevant test-based certification, and continuing professional education. All levels require 80 hours of continu-

ing professional education every two years, with concentration on broadening one's knowledge of Defense Financial Management.

Arcari described the American Society of Military Comptrollers (ASMC) program, which has created the Certified Defense Financial Manager (CDFM) initiative. He said that the program should appeal to anyone who wants to become more competent at what they do, become more eligible for promotions and available incentives, or carry a professional credential beyond government service. Certification provides the employee a road map for personal growth and an opportunity to learn and understand a broad array of FM issues and topics.

Arcari stated that certification is also beneficial for DoD. Today's FM workforce needs expertise in a broader range of skills. "The workplace is more complex and we have fewer people, but the work hasn't gone away," he said. Traditionally, professional certification levels within DoD have been low compared to the private sector, and the public has a low level of confidence in DoD financial management. "We need to have the public more confident in our ability to manage public funds," he stated, "and certification is one way to do that."

The CDFM is examination-based and covers three modules:

- Resource Management Environment
- Budgeting and Cost Analysis
- Accounting and Finance.

A variety of opportunities exist to provide training for these examinations, including self-study options, group study at ASMC chapters, the Enhanced Defense Financial Management Training Course (41-hour class), and Web-based training. More information on the ASMC certification program is available at www.asmc certification.com/.

PEO/PM/BFM Panel: Recipe for Strong BFM

The last general session of the conference was the PEO/PM/BFM Panel. Panel members were:

- Don Barker, Deputy PEO, Tactical Missiles
- Dr. Robert Buhrkuhl, Senior Program Analyst, Acquisition Resources and Analysis and a former Assistant/Deputy PEO
- Marie Greening, Program Manager, Aviation Support Equipment.

Barker stressed the importance of the BFM to the PM and PEO. "You have to tell it like it is – you can't sugarcoat it. BFM is the one area where we can get in the most trouble, and the area where most PMs have the fewest tools. The BFM's keep us straight."

Greening added, "You have the potential to be the PM's most valued asset. You know all the people in the finance and budget areas and the BFM's for other programs. You can use this to your program's benefit. Whether it's at the SYSCOM level or at OSD, it's critical for you to know the players."

Buhrkuhl agreed with this assessment. "When the PM or the PEO goes on the road, to OSD or to the Hill, nine times out of 10 the key person he or she takes is the BFM, more so than the Deputy PM, more so than the technical advisor. The BFM issues are the key issues."

Buhrkuhl added that the BFM is also vital for internal decision-making. "You should be the PM's confidante. Rarely did a decision go by that I didn't involve the BFM. I knew I would get straight answers. Requirements change, budgets change, [and] schedules slip. It's very difficult for a PM to keep a program going without a strong BFM."

Greening said the challenges faced by the BFM have changed. "All the woes of the acquisition community come to rest with the BFM. No longer is it enough to say a budget cut will delay a program by so many months or cost so many million dollars in the long run. You have to show the cost to the warfighter and how the program cut will keep a necessary improvement out of his or her hands."

According to Greening, these changes in the acquisition system require differ-

ent skills. "Cross training is going to become more important. If you've ever worked with an engineer who knows a little bit about logistics or a logistician who knows a little bit about engineering, you know what an advantage it can be. For BFM's, a little bit of knowledge about, for example contracting, can be a big help, even if your specialty is budget. Ideally, the BFM should be able to attend an IPT [Integrated Product Team], understand the underlying issues, and present them to the PM."

Conference Closing

After the panel, Nemetz closed the conference by noting that the attendance and discussions had been excellent. He thanked the audience for their participation in the Second Business Managers' Conference and said OSD would consider continuing the conference in the future.

Participants Rate the BMC a Success

To ensure that the conference continues to meet the needs of the attendees, an extensive questionnaire was included with the registration materials. More than 60 percent of the attendees completed the questionnaire. Attendees strongly agreed that the Business Managers' Conference fills a need for the business and financial manager community. More than 85 percent rated the overall effectiveness of the conference "very useful" or better. The most frequently cited benefits were "obtaining insight on policy thrusts" and "learning things useful in my job."

The majority of the attendees favored continuing to hold the conference once a year, and most attendees favored the current two-day format. Most attendees also agreed that the right amount

of time was set aside for the question-and-answer session following each presentation or panel. Conference attendees generally agreed that the size and composition of the audience was about right. Over 95 percent were in favor of continuing to schedule training breakout sessions, with many favoring more time for these training sessions.

About 90 percent agreed that the exhibits were useful, and there was almost unanimous agreement that the conference should continue featuring exhibits. These questionnaire results will be factored into planning for the 2002 Business Managers' Conference.

More information on the Business Managers' Conference, including the agenda and copies of presentations, can be found at the conference Web site: <http://bmc.ida.org/>.

Training Breakout Sessions

Twice during the conference, the plenary sessions adjourned so that conferees could attend a set of parallel training breakout sessions. The breakout sessions were in-depth discussions of specific topics of interest to segments of the business management community. These sessions covered the following topics:

- Clinger-Cohen Act Status (William May and John Laychus, Acquisition Oversight Officers, Deputy DoD Corporate Information Officer)
- Enterprise Resource Program Initiatives – Pilot Programs (John Pracchia, Business and Financial Integrated Product Team Leader, Enterprise Solutions, Naval Air Systems Command)
- Procurement Initiatives (Domenic Cipicchio, Deputy Director, Defense Procurement [Foreign Contracting])
- Operations and Support (O&S) Update (Jim Wilson, Research Staff Member, Institute for Defense Analyses)
- *Performance Based Payments Guide* (Leslie Blackmon, Senior Acquisition and Procurement Specialist, Office of the Deputy Under Secretary of Defense for Acquisition Initiatives)
- Knowledge Management Initiative (Dr. Jay Mandelbaum, Executive Secretary, Defense Systems Affordability Council, Office of the Deputy Under Secretary of Defense for Acquisition Initiatives; John Hickok, Knowledge Management Officer, Defense Acquisition University [DAU]; and Navy Cmdr. Stacy Azama, Professor of Financial Management, DSMC)
- Data Analysis (Dr. Robert Bohls, Professor of Financial Management, DSMC)
- New Starts (Pat Zarodkiewicz, Director, Budget Investments, U.S. Air Force)
- Contract Cost Data Report/Software Metrics (Marine Lt. Col. David Robinson, Director, Contractor Cost Data Report Project Office)
- Command, Control, Communications, Computers and Intelligence Support Plan (Navy Cmdr. Roger Thorstenson, Office of the Director of Program Analysis and Integration, Assistant Secretary of Defense for Command, Control, Communications and Intelligence, ASD C3I)
- Joint Requirements Oversight Council (JROC) – Requirements Generation System (Navy Capt. Kevin Peppe, Branch Chief, Strategic and Tactical System Requirements, J-8).

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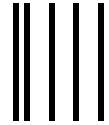
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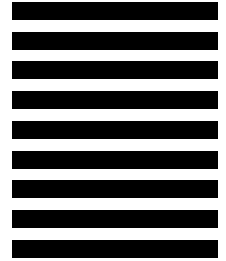
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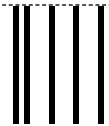


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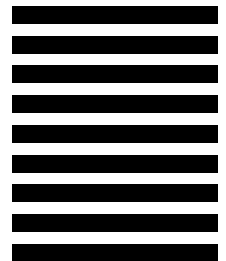
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High Mobility Trailer

Diverse Team Surmounts Design Problems to Produce a Trailer Capable of Living Up to Its Name

NANCY A. MOULTON • ERIC R. NOYES

Surmounting a wave of unfavorable publicity and serious design flaws in the Army's High Mobility Trailer (HMT), an Integrated Product Team (IPT) at the U.S. Army Tank-automotive and Armaments Command (TACOM) successfully solved design problems in the HMT that were deadlining the fleet of trailers and delaying full delivery and fielding. The HMT, which will be fielded in three versions, is a new family of trailers designed to be towed by the Army's inimitable "Humvee" – officially known as the HMMWV, or High Mobility Multipurpose Wheeled Vehicle.

Led by the Project Manager for Light Tactical Vehicles (PM-LTV), the IPT, which included acquisition managers, engineers, logisticians, and testers, developed a materiel solution through extensive use of modeling and simulation, tested the redesign and approved its application, and are currently fielding the HMT. In so doing, they are providing soldiers in the field with an outstanding trailer capable of living up to its name.

Process Improvement

In 1984, the Army began producing a 1¼-ton HMMWV to replace the venerable M151 series ¼-ton Jeep and companion M416 ¼-ton trailer as the Army's

primary light tactical vehicle. Each of the lightest HMMWVs would replace a set of two Jeeps and three trailers. As the HMMWV proliferated in the Army, units began using it to tow the M101 ¾-ton utility trailer.

The M101 was designed in 1952 to be towed by the M37 ¾-ton truck and has been paired with a variety of prime movers since then, such as the M880 series pickup truck and the Commercial Utility Cargo Vehicle. The HMMWV could

tow the M101 without incident on roads, but it was not at all suitable for cross-country travel behind the highly mobile HMMWV. The M101 had a narrower track width than the HMMWV, causing stability problems; and its suspension did not provide adequate wheel travel and ride dynamics, causing a loss of mobility in the truck/trailer system.

When towing the M101 trailer cross-country, the HMMWV was forced to slow down to minimize trailer wear and tear and preclude the propensity for

trailer rollovers. The Army needed a family of HMTs to match the HMMWV's mobility and to reduce the number of trucks and trailers needed to perform unit missions.

Army leadership directed that TACOM develop the HMT to meet this need. Two key requirements were that the HMT have the same tracking or tire spacing as its prime mover – the HMMWV; and that it not degrade the mobility of the

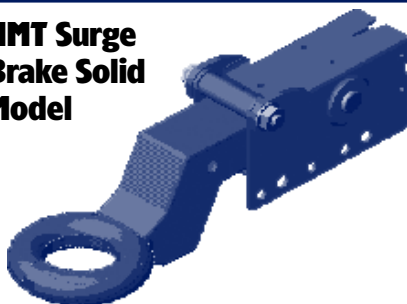
HMMWV by more than 10 percent. This translated to a requirement for a 15-mile-per-hour average and 20-mile-per-hour maximum cross-country speed while fully loaded (the most demanding portion of the mission profile). To reduce acquisition time and development costs, PM-LTV procured the HMT as a commercial-off-the-shelf, nondevelopmental item. Following full and open competition, they subse-



Moulton was the Project Manager, Light Tactical Vehicles, U.S. Army Tank-automotive and Armaments Command, Warren, Mich., from June 1998 until June 2001. Noyes is a Senior Analyst with Science Applications International Corporation (SAIC), Sterling Heights, Mich. The PM-LTV team is dedicated to providing safe, reliable products that meet mission needs. Members of the IPT wish to express thanks to all those involved in, and supportive of, the effort to get these critically needed trailers in the hands of the nation's soldiers.

The HMT provides the Army with a greatly needed capability to move cargo over all types of surface conditions at all required speeds, and will reduce the Army's logistics burden as it takes on payloads now carried by other HMMWVs.

HMT Surge Brake Solid Model



Broken HMT Aluminum Drawbar



High Mobility Trailer (HMT)

quently awarded a five-year multiyear Firm Fixed Price contract.

The HMT tracks behind the HMMWV and uses two HMMWV run-flat tires. The contract called for development of three HMT versions:

- A light cargo trailer with a 1,500-lb. payload
- A heavy cargo trailer with a 2,500-lb. payload
- A trailer chassis with a 2,700-lb. payload.

Following Production Qualification and First Article testing, production began

in January 1997 to deliver 6,700 HMTs to the Army. Although PM-LTV noted maintenance issues with the brakes and axles in these tests, they applied appropriate fixes, met all requirements, and obtained a conditional materiel release in July 1997.

Safety Problem

During initial performance testing, some HMMWV rear bumpers and cross-members were cracked by the forces exerted while being towed over rough terrain with full loads. In November 1997, during follow-on HMMWV bumper testing, an HMT drawbar completely failed when the aluminum drawbar broke apart, separating the HMT from

the HMMWV. TACOM engineers analyzed the failures and determined that the aluminum drawbar design did not have an adequate safety margin.

In March 1998, TACOM issued a Safety of Use Message, deadlining the HMT fleet until a fix could be developed and tested. By this point, PM-LTV had already fielded over 1,700 HMTs to Army units. Leveraging the expertise of all key players, PM-LTV forged a full partnership between the TACOM

Deputy for Systems Acquisition; the TACOM Research, Development and Engineering Center (TARDEC); and the Army Test and Evaluation Command. PM-LTV also fully involved all IPT members, including the U.S. Forces Command. Together, engineers from PM-LTV and TARDEC designed and developed a solution – a steel drawbar kit that would replace the previous aluminum drawbar design.

Using data collected from test courses at Aberdeen Proving Ground (APG), Md., engineers tested the solution on the TARDEC Pintle Motion Based Simulator. They also successfully conducted system-

level testing at APG to validate the kit design.

During the accelerated cross-country Technical Feasibility Testing of the steel drawbar kit, damage occurred in the HMT's surge brake assembly. A surge brake is a hydraulic brake activation system that uses the trailer's forward inertia to apply the trailer brakes. As the towing vehicle slows down, the trailer pushes forward against the vehicle. This compresses a hydraulic cylinder in the surge brake, which applies the trailer's brakes until the forward speed of the trailer matches that of the towing vehicle. When the towing vehicle and trailer speeds are equal, the pressure is re-

moved from the surge brake and the trailer's brakes are released. This is a common braking system on trailers in the 6,000- to 8,000-lb. weight range that are towed by private vehicles and operated almost exclusively on improved roads, but it is not common on trailers used primarily for cross-country travel.

During testing, cracks and deformities in the surge brake's inner slide, outer housing, and lunette assemblies appeared. The IPT believed that the damage was caused by powerful up-and-down acceleration forces between the HMT and the HMMWV pintle as the truck and trailer negotiated the cross-country test courses at APG. Surge brakes on commercial trailers typically undergo very little vertical stress because they operate almost exclusively on paved or improved roads with little or no cross-country operation at all.

The performance of the HMT on primary and secondary roads was never an issue. Testing over cross-country terrain showed that the HMT could be safely towed at up to 12 miles per hour, with a full payload, without evidence of brake actuator wear or fatigue; however, this was still well below the HMT's required speed. An evaluation of the reliability, availability, maintainability, and maintenance ratio requirements – taking into consideration the fact that the brake actuator is a maintenance item – showed that in spite of the projected brake actuator replacement rate, the design would still meet all Required Operational Capability (ROC) requirements.

However, a careful safety assessment by the IPT determined that the location of the cracks could cause separation of the trailer from the HMMWV if not detected during Preventive Maintenance Checks and Services. Therefore, TACOM classified location of the cracks as a high-risk safety issue. In August 1999, PM-LTV asked the user community to waive the cross-country speed requirement in the ROC and accept a 10-mile-per-hour cross-country speed restriction, which was significantly better than the previous 6-mile-per-hour restriction for the

M101. The user community refused to do so, and TACOM then charged PM-LTV with reducing the risk to "low" while achieving the 15-mile-per-hour average cross-country speed through a design change.

To better understand the nature of the problem, PM-LTV's IPT turned to computer modeling and simulation. IPT engineers from PM-LTV and Science Applications International Corporation (SAIC) created a three-dimensional computer model of the surge brake assembly using Computer Aided Design software. AM General Corporation, manufacturer of the HMMWV, also created computer models of the HMMWV's rear crossmember to study its stresses while towing the HMT.

Computer Solid Modeling

A computer "solid" model represents the actual item with features and properties that can be altered during the course of design and development. Modelers identify the solid model's characteristics – such as dimensions, volume, surface area, weight/density (based on the material selected), center of gravity, material properties, and natural frequency for vibration – as precisely as possible to accurately represent the physical item in the computer. This model then supports the process of Finite Element Analysis (FEA) in which the computer model is subjected to simulated physical forces to determine the location of stress points and the ability of the item or assembly to withstand the applied forces.

As the model identifies unacceptable stresses, it can be altered in terms of design or material specifications to measure whether the changes improve the item's performance. Once the FEA predicts an acceptable design, the Computer Aided Design software produces the engineering specifications needed to translate the model into the physical item for manufacturing. SAIC's engineers followed such a process to analyze the surge brake.

Concurrent with development of the surge brake computer model, PM-LTV

organized a test at APG to precisely measure the forces exerted on an HMT surge brake and drawbar during fully loaded cross-country travel at required speeds. An HMT surge brake and drawbar were instrumented with strain gages and accelerometers; a towing HMMWV was equipped with data recorders to record 48 channels of data simultaneously, 400 times per second for up to 15 minutes; and a video camera provided a visual record of the surge brake throughout the tests. The instrumented HMT was towed several times on the Perryman No. 3 cross-country test course at APG in the fall of 1999.

Once the IPT analyzed the test data from APG to learn the maximum forces being applied to the surge brake, they learned that the heavy HMT surge brake was subjected to peak loads of over 32,000 lbs. along the longitudinal axis of the drawbar, and upward loads of over 8,000 lbs. during the fully loaded cross-country tests. These were loads the surge brake was not designed to withstand.

PM-LTV also analyzed the measured loads for frequency of occurrence and duration, and developed nominal analysis loads to be inputs to the FEA. The HMT Surge Brake Finite Element Analysis is a graphical prediction of the amount of strain each portion of the surge brake might experience in the real world. Different colors highlight the areas where strain occurs at or above levels that are of interest to the designers.

Growing Outside Pressure

While the IPT worked to develop a solution to the HMT's design deficiencies, outside pressure grew to find a solution. In October 1999, the U.S. General Accounting Office issued a report to the U.S. Senate (GAO/NSAID-00-15), titled "Defense Acquisitions – Army Purchased Truck Trailers That Cannot Be Used as Planned." Prepared at the request of Iowa Senator Tom Harkin, the report detailed the programmatic and technical problems in the program's history and recommended that the Army, before procuring additional trailers, demonstrate that the HMT design will

perform, as required, without causing damage to the HMMWV.

Release of the report and Senator Harkin's subsequent press conference on the results focused national news media attention on the HMT. On Oct. 27, 1999, *ABC World News Tonight* broadcast a report on the HMT in its regular news segment, "It's Your Money." This is a recurring report in which ABC News highlights ways the Federal Government spends or does not spend the taxpayer's money. The HMT broadcast was quite critical of the HMT program.

Determining a Course of Action

As a graduate of the School For Innovators, the PM-LTV led the IPT, along with members of the Army Research Lab Physics of Failure team, in a "Thinking Adventure" at APG for three days in December 1999, to identify all innovative alternatives for resolving the HMT issues. The meetings heavily emphasized creative problem-solving methods and ended with a convergence on realistic alternatives. Following a series of intensive meetings and another two weeks of remote collaboration, the IPT arrived at the following major alternatives:

- Leave the design unchanged and emphasize regular maintenance inspections.
- Field the HMT with a 10-mile-per-hour cross-country speed restriction.
- Field the trailer as a redesignated M101A4.
- Convert all heavy HMTs to light HMTs. Users requiring the heavy version would have to accept a permanent 10-mile-per-hour speed restriction.
- Develop a dampening device to absorb the unacceptable forces occurring during fully loaded cross-country movement at required speeds.
- Adopt an alternative surge brake design.

To evaluate the feasibility of the alternative surge brake designs, the IPT again turned to modeling for assistance. They considered four alternatives; conducted a market survey; and SAIC modeled one design in three variations, only one of which showed evidence, through the

The HMT program has logged over 550 modeling and simulation hours and over 200,000 miles of testing during the course of the program, which has resulted in a superior trailer design.

FEA model, that it would work with reliability and with an adequate safety margin. Using the modeling and simulation information and assessing other factors such as operational and technical supportability, cost, and risk, PM-LTV put together a decision matrix to assist in the decision-making process. Considering all factors, the PM-LTV decided to modify the existing surge brake to increase its strength rather than adopt a new brake design. They also approved the configuration changes, developed a cost estimate to complete the reconfiguration, and prepared program strategy alternatives for senior Army leadership.

On Feb. 25, 2000, and again on March 27, 2000, the Army convened HMT General Officer Summits at the U.S. Army Materiel Command headquarters in Alexandria, Va. The leadership considered three options for a strategy to resolve the HMT issues:

- Store all the trailers until all modifications were applied.
- Replace the aluminum drawbar with the steel replacement drawbar and field the HMT with an interim cross-country speed limit until all other modifications were applied.
- Withdraw all HMTs from the field, terminate the program, and develop a new trailer sometime around 2009.

The Army leadership determined that the best solution for the Army was to keep all HMTs in storage until all modifications could be applied.

Following approval of the Army's "path forward," PM-LTV and Rock Island Arsenal (RIA) engineers collaborated to design improved brake actuator housing components. The original surge brake inner and outer housings had been fabricated with an alloy steel that was not strong enough to withstand its operating environment. IPT engineers recommended that the housings be cast using a harder alloy steel. RIA, with its extensive foundry operation, undertook the manufacture of prototype improved surge brakes, installing six prototype surge brakes on both light and heavy HMTs. PM-LTV used several test courses at APG to replicate the HMT's cross-country mission profile – over 4,000 miles for each trailer – followed by a system test to verify that all safety concerns were resolved.

PM-LTV completed testing on Oct. 31, 2000, without any safety incidents, and identified corrective actions to address the minor test incidents that did occur. Both the light and heavy HMTs achieved average cross-country speeds of over 18 miles per hour, exceeding the requirement; both also exceeded the 1,500- and 2,500-lb. payload requirements. The IPT determined that the surge brake assembly was a safe and durable product and did not cause damage to the HMMWV/HMT interface. To reflect the production configuration, modelers updated the computer solid models. RIA has begun producing production surge brakes to replace all current HMT surge brakes.

Final Thoughts

The HMT program has logged over 550 modeling and simulation hours and over 200,000 miles of testing during the course of the program, which has resulted in a superior trailer design. Modifications to the entire HMT fleet are nearing completion to replace the aluminum drawbar with one made of steel; and the modified brake being produced by RIA will replace the surge brake. The

TACOM Commanding General approved Full Materiel Release on March 16, 2001, and materiel fielding is ongoing.

Headquarters, Department of the Army, has provided funding to PM-LTV to implement modifications to two HMMWVs for every HMT assigned to each unit – referred to as the 2:1 approach. PM-LTV has requested an increase in funding to modify all HMMWVs in units assigned HMTs – called the UIC [Unit Identification Code] approach. All HMTs are scheduled to

be modified and fielded no later than September 2002.

Throughout its history, and especially during the rigorous technical testing, the HMT has proved that it provides greater capabilities to our soldiers than any trailer in its class. The HMT will not have a cross-country speed limit. Safe cross-country speed will be adjusted and determined by driving conditions according to operator judgment.

The HMT provides the Army with a greatly needed capability to move cargo

over all types of surface conditions at all required speeds, and will reduce the Army's logistics burden as it takes on payloads now carried by other HMMWVs. It also stands as an outstanding example of a diverse team, with competing objectives, coming together to solve difficult problems.

Editor's Note: The authors welcome questions or comments on this article. Contact Noyes at NoyesE@tacom.army.mil.

Report of the Military Research Fellows DAU 2000-2001

FROM CHAOS TO CLARITY: How CURRENT COST-BASED STRATEGIES ARE UNDERMINING THE DEPARTMENT OF DEFENSE

Authors

Lt. Col. Warren Anderson, USAF

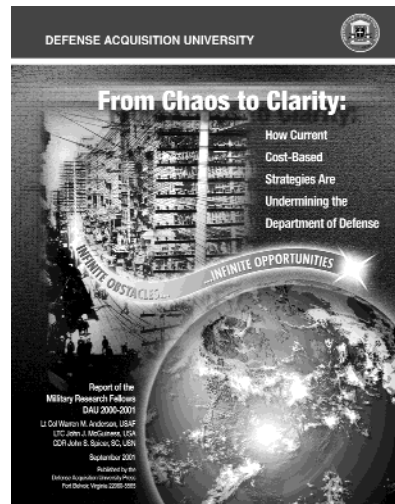
Lt. Col. John McGuinness, USA

Cmdr. John Spicer, SC, USN

The latest Defense Acquisition University Military Research Fellows Report, *From Chaos to Clarity: How Current Cost-Based Strategies are Undermining the Department of Defense*, is now available in hard copy as well as online. Dated September 2001, the report details how DoD's cost-based initiatives fail to align with the Department's business strategy.

Historically, DoD has followed a generic strategy of differentiation, not cost leadership. The Department's beliefs, values, and mission are aligned to support this generic strategy. Office of Management and Budget (OMB) Circular A-76 and related initiatives, with their focus on cost, are not well suited for an organization such as DoD, which competes on quality, not cost. This misalignment of strategy and outsourcing policy has generated a great deal of concern within DoD, especially among base and installation commanders who must implement A-76 and related measures.

The authors make the case that A-76 results, as measured by savings goals, have not generated anywhere near the results expected. Indeed, cost-driven outsourcing strategies,



according to their report, are undermining DoD. The effort put into OMB Circular A-76 and related initiatives is great, yet the savings are at best marginal. Evidence is now emerging that these initiatives are degrading mission performance.

The intended audience is the DoD ac-

quisition, technology and logistics workforce as well as policy makers.

The report may be downloaded from the DAU Web site at <http://www.dau.mil/pubs/misc/clarity.htm>. Non-government personnel may purchase hard copies of DAU publications for a nominal charge by calling the Government Printing Office at (202) 512-1800; to fax a request, call (202) 512-2250. Government personnel may obtain single copies of DAU publications at no cost by writing or faxing a request, on official stationery, to the address shown below:

**DEFENSE ACQUISITION UNIVERSITY
ATTN AS-CI
9820 BELVOIR ROAD STE 3
FORT BELVOIR VA 220760-5565**

**Comm: (703) 805-2743
Fax: (703) 805-3726**



Navy Announces DD(X) Program

The Navy announced today that it will issue a revised Request for Proposal (RFP) for the Future Surface Combatant Program. Formerly known as DD 21, the program will now be called "DD(X)" to more accurately reflect the program purpose, which is to produce a family of advanced technology surface combatants, not a single ship class.

Deputy Secretary of Defense Paul Wolfowitz approved the revised program focus and reaffirmed the Department's support for the Future Surface Combatant Program.

"President Bush has made transformation of the Department of Defense a high priority. Through DD(X), the Navy has charted a course to transformation that will provide capability across the full spectrum of naval warfare. The Navy's strategy supports assured access to littoral regions and also develops the capability to defeat the air and missile defense threats the nation's naval forces will face in the future."

Under Secretary of Defense for Acquisition, Technology and Logistics E. C. "Pete" Aldridge stated that "the new program focus and new RFP will enable the Navy to fully leverage the great work already done by the two industry teams, continue risk mitigation measures, and permit appropriate spiral development of technology and engineering to support a range of future surface ships to meet our Nation's maritime requirements well into the 21st Century," Aldridge said. "The DD(X) program will be the technology driver for the surface fleet of the future."

"With the approval of this strategy, the Navy has defined its surface combatant road map for the future in a manner which ensures all maritime missions can be accomplished. Through DD(X), we are taking a significant step toward providing improved combat capability for our Sailors and Marines," said Navy Secretary Gordon England.

Chief of Naval Operations Adm. Vern Clark said the DD(X) program reflects an awareness that effectively defeating future threats, while accomplishing naval missions, will require a range of naval capabilities and different surface platforms.

"One size fits all will not work on the future battlefield," Clark said. "We must continue to exploit the robust R&D [Research and Development] effort made on DD 21 even as we focus our research and technology funding of other approaches such as the Littoral Combat Ship concept."

The DD(X) program will provide a baseline for spiral development of the DD(X) and the future cruiser or "CG(X)" with emphasis on common hullform and technology development. The Navy will use the advanced technology and networking capabilities from DD(X) and CG(X) in the development of the Littoral Combat Ship with the objective being a survivable, capable near-land platform to deal with threats of the 21st century. The intent is to innovatively combine the transformational technologies developed in the DD(X) program with the many ongoing R&D efforts involving mission focused surface ships to produce a state-of-the art surface combatant to defeat adversary attempts to deny access for US forces.

The revision of the program is based on the Navy's continued careful examination of DD21 as it reached the source selection milestone this past spring. At that time, the Navy delayed the down-select decision between the two competing DD21 teams in order to take advantage of ongoing reviews being conducted in the Department of Defense, including the Quadrennial Defense Review. The Navy expects to issue the revised RFP within the next few weeks, and to down-select a single industry team to be the design agent and technology developer this Spring.

Editor's Note: This information is in the public domain at <http://www.defenselink.mil/news>.

Achieving Procurement Diversity Using Institutions of Higher Education

DISA Actively Cultivates a Valuable, Almost Untapped Resource to Satisfy DoD IT Requirements

BERVIN D. ELLIOTT • SHARON SELLERS

In the Department of Defense procurement arena, the challenge for many agencies is how to meet the goals of competitively awarding sufficient contract dollars to Institutions of Higher Education (IHE), which includes approximately 500 Historically Black Colleges and Universities (HBCU) and Minority Institutions (MI). Presidential Executive Order 12928, "Promoting Procurement with Small Businesses Owned and Controlled by Socially and Economically Disadvantaged Individuals, Historically Black Colleges and Universities, and Minority Institutions," encourages DoD and federal agencies to support contracting initiatives and efforts that include obtaining services from HBCU/MI, including Hispanic, Asian, and American Indian Institutions as well as small, disadvantaged, and women-owned businesses.

DISA and a New Kind of Contract

The Defense Information Systems Agency (DISA) has developed and established an innovative approach that provides opportunities for MI and the small business community, and effectively and efficiently fulfills DoD information technology support services requirements.

Called the DISA Minority Institutions Technology Support Services (MITSS) Contract, it provides effective and efficient use of colleges and universities to sustain and advance DoD technology programs; and helps increase the par-

ticipation of MI in defense procurements. A DISA contract award to an MI increases the DoD knowledge base in the nation's colleges as well as MI involvement in DoD procurements.

The Need Is Urgent

DoD has a continuing requirement to provide high-quality, information technology-based products and services covering a wide range of programs, systems, organizations, and people to support Command, Control, Communications, Computer, and Intelligence for the Warrior (C4I²WTW). To manage its complex technical infrastructure and maintain information superiority, DoD must have access to a sustaining cadre of highly skilled resources. This challenge requires DoD to cultivate extensive partnerships with industry as well as IHE to maintain advances in technology and training.

The Defense Information Systems Agency has developed and established an innovative approach - the Minority Institutions Technology Support Services (MITSS) Contract - that provides opportunities for Minority Institutions; Historically Black Colleges and Universities; and the small, disadvantaged, and women-owned business community.

Responding to this challenge, DISA established an Indefinite Delivery Indefinite Quantity (IDIQ) contract for information technology (IT), telecommunications, and related services that ensures timely access

Elliott is a Program Analyst with the Defense Information Systems Agency (DISA), Office of the Chief Information Officer. A DoD Level III Certified Acquisition Professional in Contracting, he serves as the Contracting Officer's Representative for the Minority Institutions Technology Support Services (MITSS) Contract, a multiple award contract awarded to 11 prime contractors - eight Historically Black Colleges and Universities, and three Minority Institutions. Sellers is Chief, Defense Special Programs Division/Program Manager, MITSS, Office of the Chief Information Officer, DISA.





to the resources of highly qualified Institutions of Higher Education, which are available to support DoD requirements upon demand. This type of contract vehicle is especially needed as DoD identifies IT support requirements, as procurement opportunities are extended to MI, and as DoD moves from the non-integrated collection of stovepipe systems and architectures to a more integrated and modern IT environment.

Military Services, and other Defense Agencies. The baseline requirement for this procurement is for HBCU/MI, with a broad range of IT services and solutions, in areas such as: computer and communications systems, networks, software development and testing, satellites, evaluating life cycle cost, technical education and training development, and satisfying end-user technical requirements.

The overall purpose of the contract is for HBCU/MI to provide a wide range of technical support, studies, and analysis and training services. This will facilitate the migration of DoD legacy information systems, networks, and standard data into an integrated and interoperable Defense Information Infrastructure. The contractor may be tasked to provide IT and a telecommunications service for activities throughout all operating levels within DoD.

A Team Effort

The Office of the Chief Information Officer Program Manager coordinated the development of the MITSS contract and organized a team of acquisition and IT professionals to assist in the planning, developing, and coordinating of this initiative, which began in fiscal 1997. The team's major accomplishments are highlighted in the timeline shown below.

Similar in form, administration, and function to the other DISA IDIQs, the DISA MITSS contract is a multiple award IDIQ Task Order-type contract with a base year and four option years. On Dec. 10, 1999, it was awarded to 11 prime contractors – eight HBCU, and three MI. The awardees include the following:

- Alabama A&M University, Normal, Ala.

- Florida International University, Miami, Fla.
- Hampton University, Hampton, Va.
- Langston University, Langston, Okla.
- New Mexico State University, Las Cruces, N.M.
- Norfolk State University, Norfolk, Va.
- North Carolina A&T State University, Greensboro, N.C.
- Prairie View A&M University, Prairie View, Texas
- Tennessee State University, Nashville, Tenn.
- University of Maryland Eastern Shore, Princess Anne, Md.
- University of New Mexico, Albuquerque, N.M.

These prime contractors carefully selected and partnered with a diverse group consisting of large IHE and businesses, and small, disadvantaged, and women-owned businesses as well as other HBCU/MI. Many of the subcontractors already have active IT-related support services contracts with DISA, or successfully completed DISA contract requirements. Figure 1 shows the total

TIMELINE FOR DEVELOPMENT/AWARD OF DISA MITSS CONTRACT

- **Request for Information (RFI) Released** – Dec. 2, 1998. Generated 18 responses from the MI community.
- **Request for Proposal (RFP) Announced** – March 2, 1999. Informed potential MIs to prepare for the eventual release of the actual RFP.
- **RFP Released** – June 22, 1999
- **RFP Closed** – Aug. 27, 1999
- **Oral Proposals Presented** – Oct. 4-15, 1999
- **Contract Award** – Dec. 10, 1999
- **Post-Award Conference** – Jan. 27-28, 2000
- **First Task Order Issued** – Feb. 16, 2000
- **Press Release** – April 6, 2000. Approved by the DISA Director and furnished to various DoD IT publications.
- **MITSS Added to the DISA DIRECT Electronic Mall** – Aug. 1, 2000.

SOW

The Statement-of-Work (SOW) outlines the technical support and services available from this multiple award procurement provided by designated HBCU/MI. This contract is available to DISA, the

representation of primes and subcontractors.

Award Amount

The MITSS contract is valued at \$24,000,000. The guaranteed minimum per year for the contract is \$1,500.

Task Areas

The contract is structured into 13 task areas, or available services that provide a wide range of technical support, studies, and analysis and training. A detailed description of each task area is contained in the SOW. The task areas are:

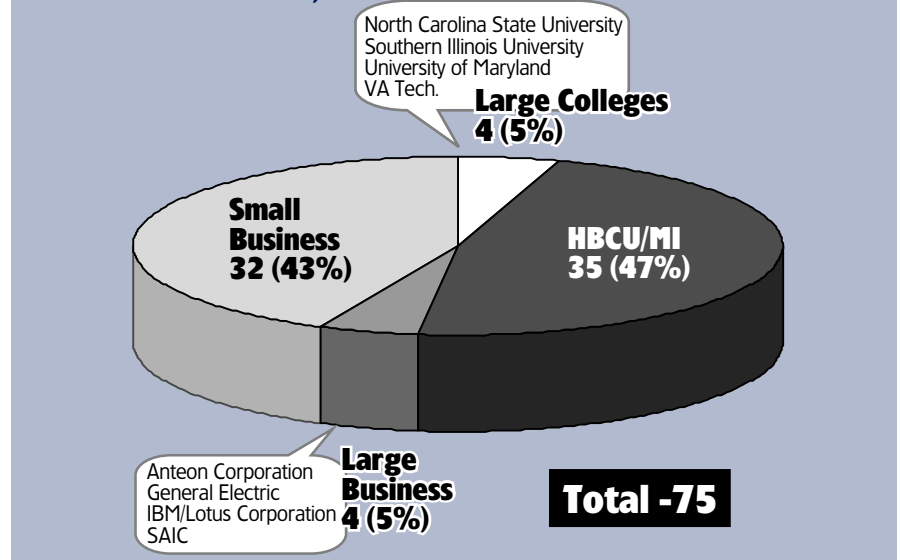
- Program and Task Order Management
- System Engineering
- Telecommunications
- Acquisition Management
- Modeling and Simulation
- Electronic Commerce
- Program and Information Management
- System Evaluation, Integration and Testing
- Information Systems Security and Information Assurance
- Software, Computer Systems, and Network Application Development
- Information Technology Training (including Distance Learning)
- Studies in Advanced Information Technologies
- Business Process Reengineering.

DoD Mentor-Protégé Program

The MITSS MI are also available to provide training and development courses for agencies that maintain a Mentor Protégé Program. Courses are tailored to the requirements of the small businesses designated as protégées. The DoD Mentor Protégé Program objective is for a successful company to mentor a small company, primarily by means of a transfer of intellectual knowledge or a transfer of technology.

DISA's Office of Small and Disadvantaged Business Utilization provided funding for the initial Task Order to all 11 MITSS contractors, which required MITSS contractors to furnish a Mentor-Protégé Program Plan (MPP) and MPP Brochure, listing courses of training available for DoD designated protégées.

FIGURE 1. Business Representation (Percentage of Primes and Subcontractors)



Proposal Evaluation

MITSS contractor proposals were evaluated on the following criteria:

- **Technical Capability.** The MITSS RFP required contractors to respond to all 13 task areas stated in the SOW. Each contractor team presented an oral proposal that addressed both technical capabilities and past performance in the 13 task areas.
- **Past Performance.** Information on work performed that related specifically to the 13 task areas.
- **Labor Rates.** Contractor-furnished rates for the labor categories listed in the SOW, which included base and option years, as well as for work performed at either the contractor or government sites.

Contracting Process/Procedures

The MITSS offers a variety of contract types – Firm Fixed Price, Cost Plus Fixed Fee, and Time and Materials. MITSS allows decentralized ordering and can be used by all the Military Services and DoD Agencies. DoD customers have the option of either using their own organic contract office to perform the contracting functions, or using services of DISA's Information Technology Contracting Office (DITCO-Scott), located at Scott Air Force Base, Ill. DITCO-Scott charges a 2 percent fee to perform these contracting functions, including devel-

oping the solicitation, advertising, and awarding the task order.

Task orders have a Federal Acquisition Streamlining Act and Federal Acquisition Regulation 16.505 (b) requirement to provide fair opportunity for consideration of awards. The contracting officer will give each contractor a fair opportunity to be considered for orders in excess of \$2,500 unless one of the conditions in Federal Acquisition Regulation 16.505(b)(2) applies. Exceptions include awards for urgency, only one capable contractor, logical follow-on contract, and minimum task order guarantee.

The task order process takes approximately 28 days or less from review of the solicitation to contract award. MITSS contractors have 10-14 days to provide a proposal in response to a solicitation posted at a restricted Web site. The flow chart at Figure 2 describes the MITSS task order process.

MITSS Web Site

Interested customers can visit the MITSS Web site at <http://www.disa.mil/D4/diioss/mitsschar.html> to access the following information:

- **The MITSS Task Order Guide.** This on-line manual provides step-by-step instructions on how to develop a task

order. It has a sample Independent Government Cost Estimate worksheet. Although developed for internal DISA use, it serves as an excellent guide for developing a task order.

- **Contract/Statement of Work.** A generic copy of the MITSS Contract and Statement of Work.
- **Prime Contractors/Subcontractors.** List of the prime contractors and their subcontractors; also provides a link to the prime contractors' and the subcontractors' Web pages.
- **Labor Rates.** Contractor Labor Rates Table with Labor Categories listing rates for work that would be accomplished at either the contractor or government site.
- **MITSS Quick Reference Overview.** A list that compares the General Services Administration schedule with the MITSS for obtaining IT services.
- **Task Areas.** List of the 13 task areas that links to the description.
- **Task Order Process.** A flow chart explaining the Task Order process from review of the solicitation through award.
- **MITSS Points of Contact.** Includes the Contracting Officer, Contract Spe-

To manage its complex technical infrastructure and maintain information superiority, DoD must have access to a sustaining cadre of highly skilled resources. This challenge requires DoD to cultivate extensive partnerships with industry as well as Institutions of Higher Education to maintain advances in technology and training.

cialists, and the Contracting Officer's Representative (COR).

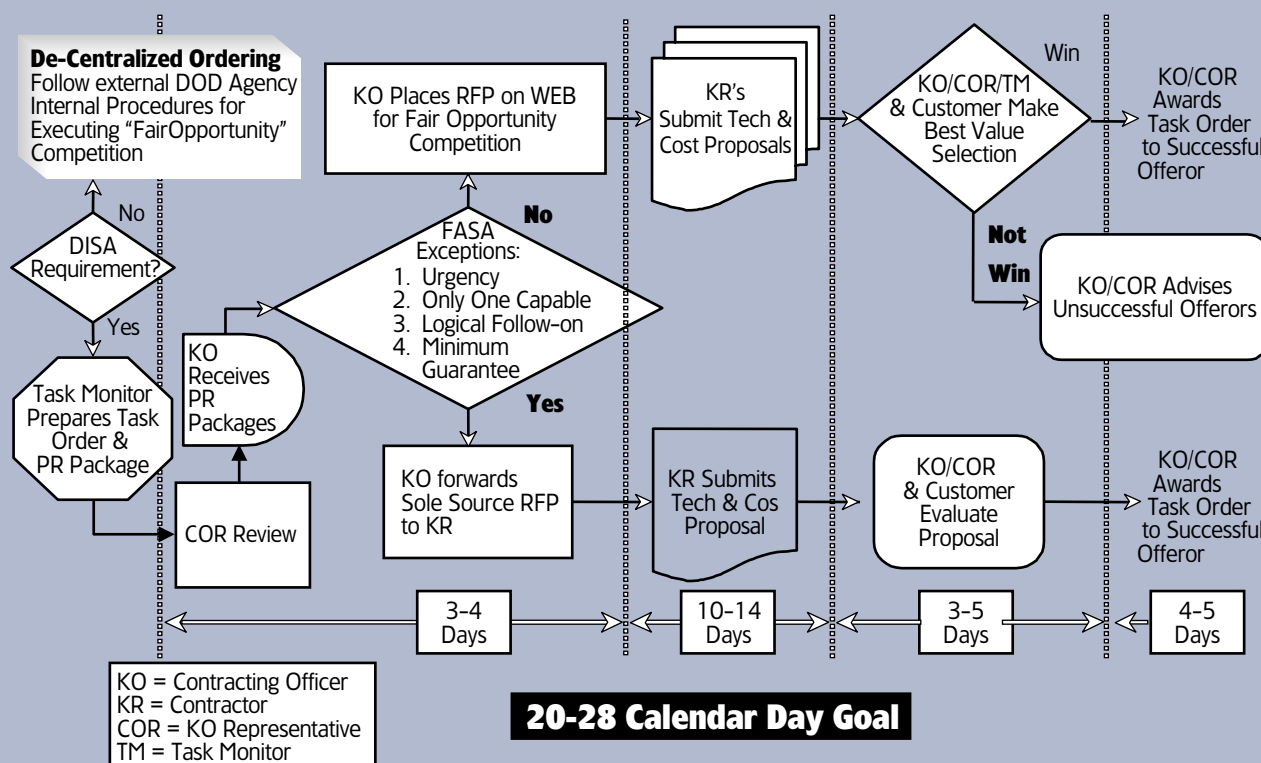
- **MITSS Press Release.** Furnished to DoD publications.
- **Awards.** Lists awards and requirements tracking.
- **Request for Proposal (RFP).** The password-protected link for MITSS prime contractors to access RFPs.

Electronic Business

The MITSS contract and task order awards are distributed to awardees electronically. Solicitations/RFPs requiring proposal response from the MITSS contractors are posted to a password-protected MITSS Web site to which only the prime contractors have access. Also, an email is sent to the contractor's points of contact when an RFP is posted to this site. MITSS prime contractors are encouraged to routinely check this site for competitive opportunities.

Monthly activity reports are emailed each month to the Contracting Officer and Contracting Officer's Representative, providing status of task orders awarded as well as contract status.

FIGURE 2. **DISA Task Order Process**



Customers can also access DISA DIRECT Electronic Mall to obtain information on the MITSS contract vehicle and the services available to meet DoD requirements.

Credit

Although the MITSS contract was established by DISA, HBCU/MI credit is attributed only to the awarding activity (i.e., Army, Navy, Air Force, or other DoD Activities) using DD Form 350, "Individual Contracting Action Report."

Comparisons/Benefits

DISA's approach to developing and implementing the MITSS contract to increase the participation of HBCU/MI in DoD procurement actions differs from approaches used by other organizations.

- The MITSS contract constitutes a set-aside for MI as prime contractors.
- Contractors compete for task order awards with only the other MITSS competitors.
- The MITSS opportunities Web site is routinely checked for solicitations posted. Also, users may request they be notified by email that a solicitation has been posted.
- Because they have a pre-approved award, contractors have immediate access to compete for other DoD contracts, including those of the Army, Navy, Air Force, and Marines. Basically, DoD interested customers need only identify their requirements, de-

velop a SOW, email/post the RFP, accept and review proposals, and ensure their contracting office awards the contract.

Obstacles to Minority Institutions

MI must compete with the entire population of large businesses and majority institutions that have an established history of past performance and a foothold on the DoD procurement business. Some of the barriers are:

- Limited DoD individual procurement opportunities for MI.
- Limited DoD set-aside opportunities.
- Potential contractors from MI must constantly identify procurement opportunities by searching DoD's many Web sites, reviewing the *Commerce Business Daily*, and various networks.

Win-Win for DoD and Minority Institutions Using the MITSS

DoD has unlimited access to the resources of IHE for the purpose of:

- Obtaining IT support and services.
- Obtaining IT training tailored to the needs and requirements of the MPP protégées. Provide training at a desired location with a class size necessary for maximum learning and retention.
- Increasing DoD partnering opportunities with IHE/MI.

- Increasing opportunities for DoD to meet or exceed the goals of competitively awarding contract dollars to MI.

An Innovative Contracting Approach

The MITSS can be described as an innovative contracting approach that DISA has implemented to offer procurement opportunities for designated MI, and as a valuable, almost untapped resource to satisfy DoD IT requirements. Awarded to 11 HBCU/MI as prime contractors, these 11 IHE have partnered with a diverse group of subcontractors that possess the capabilities and experience DoD seeks, and have successfully completed previous IT or related contracts for DoD.

The MITSS contractors are responding to Web site solicitations, competing for, and receiving task order awards. The MITSS is only one success story that, as already demonstrated, can markedly increase procurement opportunities to support America's warfighters, and enhance the economic well-being of the nation's MI as well as small, disadvantaged, and women-owned businesses. Hopefully, other DoD and federal agencies will elect to emulate and repeat the successes DISA has enjoyed through the MITSS contract vehicle.

Editor's Note: The authors welcome questions or comments on this article. Contact Elliott at ElliottB@ncr.disa.mil.

AT&L WORKFORCE RESOURCES

The following guides, handbooks, and "How To" manuals will help you step-by-step through several acquisition processes. Access them at <http://www.acq.osd.mil/ar/resources.htm>.

- *Guide to Performance Based Payments*, Jan. 22, 2001. The policy, "Use of Performance-Based Payments (PBP)," signed by Dr. Jacques Gansler on Nov. 13, 2000, explains this new, simplified financing technique.
- *Performance-Based Services Acquisition (PBSA) Guidebook*, Jan. 2, 2001.
- *Commercial Off The Shelf (COTS) and Commercial Item Guide*, "Commercial Item Acquisition: Considerations and Lessons Learned," July 2000.
- *Guide to Incentive Strategies for Defense Acquisitions*, January 2001.
- *Guide to Collection and Use of Past Performance Information*, Version 2, May 2001.
- *Intellectual Property: Navigating Through Commercial Waters*, "Issues & Solutions When Negotiating Intellectual Property With Commercial Companies," April 2001.
- *Other Transactions (OT) Guide For Prototype Projects*, January 2001.
- *Contracting for the Rest of Us: Some Basic Guidelines*, October 2000, was released by the Office of the Assistant Secretary of the Navy for Research, Development and Acquisition, Acquisition and Business Management.
- *Procedure for Bid Protests at GAO* (a descriptive process).

France-U.S. Defense Industry Business Forum II

Dec. 10-12, 2001

Greater Washington-Baltimore Metropolitan Area

Renaissance Harborplace Hotel

202 East Pratt Street • Baltimore, Md. 21202

Phone (410) 547-1200 • Fax (410) 539-5780



Registration

View/print the registration form at <http://register.ndia.org/interview/register.ndia?~Brochure~2990>

Business to Business Meetings

To be conducted Dec. 10-11, 2001

Table Top Display Hall

To be accessible December 10-11, 2001

Objective

The globalization of national economies and the need to improve interoperability among allied forces are strong incentives for nations to seek forms of cooperation that are robust, mutually beneficial, and pragmatic. That cooperation must take place among national governments, among their defense industries, and among the suppliers to those industries. The United States and France each are home to leading armaments and commercial industries. Thus, it is natural that both actively seek ways to expand existing business links and create new ones.

The second French/U.S. Defense Industries Business Forum will continue the work started two years earlier when senior officials from the two governments and senior executives from large, medium, and small companies in both countries came together in Toulouse, France, for three days of discussions. Building upon the accomplishments of the first, the second Forum will seek to further promote transatlantic alliances and partnerships between French and U.S. defense firms, including prime contractors, medium and small suppliers. The Forum will:

- Provide an understanding of business operating environments in the two countries and of specific defense business opportunities of possible interest to their firms.
- Describe the various initiatives being undertaken by the French and U.S. Governments to reform their respective defense procurement procedures and export control systems. Many of the reforms could foster increased transatlantic cooperation and increased transatlantic business.
- Provide numerous opportunities for face-to-face meetings between French and U.S. executives, thereby laying the groundwork for future, focused discussions.

Co-Organizers

Aerospace Industries Association (AIA)
Association of the United States Army (AUSA)
Comite Richelieu
Groupement des Industries Francaises Aeronatiques et Spatiales (GIFAS)
Groupement Industriel des Constructions et Arme-ments Navals (GICAN)
Groupement des Industries Concernees par les Ma-teriels de Defense Terrestre (GICAT)
Groupement des Industries de Telecommunications et d'Electronique Professionnelle (GITEP)
Ministry of National Defense
Navy League
Office of the Under Secretary of Defense (Acquisi-tion, Technology and Logistics) (OUSD-AT&L)
Office of Defense Cooperation (U.S. Embassy-Paris)

For more information on the International Com-mittee, contact the Director, Jennifer Burnside, at: jburnside@ndia.org.

ACTION ITEM LISTS

Help or Hindrance?

Lee Hewitt

I recently attended an Integrated Product Team, Working Group, Tiger Team, or maybe it was a Red Team meeting (I forget). Near the start of the meeting, we spent over an hour reviewing the Action Item list from the last meeting; at the end of the meeting we spent still more time reviewing the action items generated during the current meeting. Today, I received the updated Action Item list from the last meeting whose title escapes me, which caused me to ponder the following questions regarding Action Item lists.

Why do we have Action Item lists?

They give the appearance that we are doing something. We are taking action!

How are Action Items generated?

Randomly. At any time during a meeting, an attendee may ask a question that cannot be immediately answered, and it then becomes an action to answer the question in the future. At some point, someone realizes and expresses that some action should be taken, and someone else captures it as an Action Item. However, the reason for the Action Item is often not captured, so that months later the

question may surface, "Why did we generate that Action Item?"

Who generates Action Items?

As described previously, it could be anyone. It could be two people out of 50 agreeing to do something, or it may be a single question begging to be answered. Regardless, placing it on the Action Item list makes it the property of the group and the Action Item list administrator.

How are Action Items defined?

Normally, in as few words as possible to fit into the Action Item spreadsheet. As a result, the details of the action – what specifically should be done – may be lost.

How are Action Items managed?

Placing an Action Item on a list gives the appearance of management. However, if no one follows up on the Action Item list and no one follows up to ensure actions are completed, there is no management. A few days or weeks before the next meeting, the Action Item list is distributed and individuals are reminded that they had agreed to take some action months ago

that has not been done. Or, in some instances the list may contain an Action Item already completed, but no one told the Action Item list administrator to clear it from the current list.

How are Action Items closed?

When the action is completed; when it is overcome by events; when the person responsible for taking the action departs the group; when it is replaced by a new action; when the purpose of the action is forgotten; or when no one cares about it anymore. (Only one of the preceding choices is good.)

And my point is?

Action Item lists may have a good purpose in theory. However, in practice they may be more trouble than they are worth.

Editor's Note: Hewitt is a retired Army colonel and former Project Manager for the Army Data Distribution System. For questions or comments, contact him at lhewitt@aol.com.

Placing an Action Item on a list gives the appearance of management. However, if no one follows up on the Action Item list and no one follows up to ensure actions are completed, there is no management.



DAU Guidebooks Available At No Cost to Government Employees

COMPARISON OF THE DEFENSE ACQUISITION SYSTEMS OF AUSTRALIA, JAPAN, SOUTH KOREA, SINGAPORE, AND THE UNITED STATES

This guidebook describes the national armament systems of Australia, Japan, South Korea, Singapore, and the United States. Beginning with an introduction to the political environment, the acquisition organizations, systems, and processes involved, Kausal and Markowski describe the effects of differences in national culture and traditions, time zones, currencies, fiscal year schedules, and language barriers. Tying these differences to each nation's national armament system, the authors make the case that international armaments cooperation is a difficult but rewarding challenge.

Author: Stefan Markowski

Editor: Tony Kausal

Online

<http://www.dsmc.dsm.mil/pubs/misc/acq-comp-pac-00.htm>

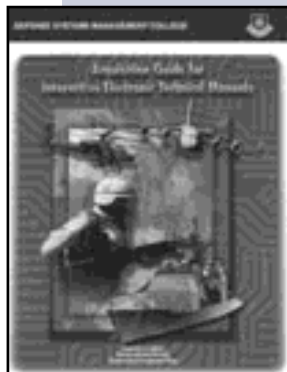
Printed Copy

To request a printed copy of *Comparison of the Defense Acquisition Systems of Australia, Japan, South Korea, Singapore, and the United States*, choose one of three options: 1) Fax a written request to the DAU Publications Distribution Center at (703) 805-3726; 2) mail your request to Defense Acquisition University, Attn: AS-CI, 9820 Belvoir Road, Suite 3, Fort Belvoir VA 22060-5565; or 3) call (703) 805-2743.



ACQUISITION GUIDE FOR INTERACTIVE ELECTRONIC TECHNICAL MANUALS

This guidebook is designed as the primary desk reference for acquisition personnel who must acquire, develop, deliver, and manage Interactive Electronic Technical Manuals (IETM). It incorporates the status of existing/planned DoD and Service-unique policy guidance, discusses current and projected technologies related to the production of IETMs, analyzes the relationships between IETMs and training, and addresses delivery vehicles, including the World Wide Web.



Online

<http://www.dsmc.dsm.mil/pubs/misc/ietm.htm>

Printed Copy

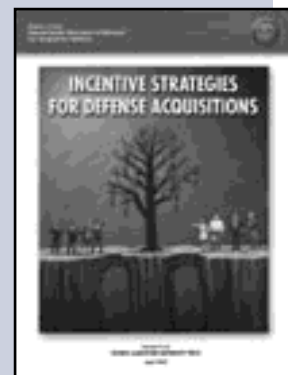
To request a printed copy of *Acquisition Guide for Interactive Electronic Technical Manuals* (September 1999), choose one of three options: 1) Fax a written request to the DAU Publications Distribution Center at (703) 805-3726; 2) mail your request to Defense Acquisition University, Attn: AS-CI, 9820 Belvoir Road, Suite 3, Fort Belvoir VA 22060-5565; or 3) call (703) 805-2743.

INCENTIVE STRATEGIES FOR DEFENSE ACQUISITIONS GUIDE

Printed on behalf of the Office of the Deputy Under Secretary of Defense for Acquisition Initiatives by the Defense Acquisition University Press

Incentives should exist in every business arrangement because they maximize value for all parties. DoD needs to adopt strategies that attract, motivate, and reward contractors to encourage successful performance. Using commercial practices will enhance DoD's ability to attract nontraditional contractors. This guide amplifies existing policy regarding use of incentives in defense acquisitions. It explores cost-based and noncost-based incentive strategies. It clearly defines use of performance objectives or product functionality vs. detailed requirements to seek best value acquisitions. It answers these questions:

- Why are we concerned with contractual incentives?
- What elements contribute to an effective incentive strategy?
- How can we build and maintain an effective environment for a successful business relationship?
- How can we build the acquisition business case?
- How can we build an incentive strategy that maximizes value?



Online

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Aldridge Publishes Policy on Adjustments to Cancelled DoD Appropriations



THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-3010



MEMORANDUM FOR SECRETARIES OF THE MILITARY DEPARTMENTS
ATTENTION: SERVICE ACQUISITION EXECUTIVES
DIRECTORS OF THE DEFENSE AGENCIES

01 OCT 2001

SUBJECT: Improper Adjustments to Cancelled Department of Defense Appropriations

The General Accounting Office (GAO) criticized DoD for a lack of adequate systems, internal controls, and managerial attention to ensure that adjustments affecting closed appropriations are legal and otherwise proper. GAO auditors asserted that the Military Departments used contract modifications to instruct the Defense Finance and Accounting Service to charge some payments to closed appropriations. The GAO further indicated that documentation supporting these adjustments did not adequately explain the underlying reasons for the adjustments. Because of these criticisms, the GAO recommends that I, as the Under Secretary of Defense (Acquisition, Technology and Logistics) issue policy guidance prohibiting contract modifications resulting in improper adjustments to contract payment terms. Additionally, the Under Secretary of Defense (Comptroller) requests that the acquisition community take appropriate action to prevent improper adjustments.

Accordingly, I request you make certain that all contracting activities have procedures in place that ensure compliance with the requirements of the Department's financial management policies, which currently preclude the improper adjustments identified by the GAO. Instructions for charging and processing adjustments to closed appropriation accounts are included in Volume 3, Chapter 10 of the Department of Defense Financial Management Regulation (DoD 7000.14-R). All contract modifications that include adjustments to closed appropriation accounts must be supported with contract file documentation sufficient to establish that the adjustments are legal and proper, and that they received supervisory review. The modifications must also be approved in writing by the appropriate level comptroller or financial resource manager.

Actions taken to comply with this direction must be completed within 60 days from the date of this memorandum. Any questions should be addressed to Mr. Richard Brown in Defense Procurement at (703) 695-7197, or Richard.G.Brown@osd.mil.


E.C. Aldridge, Jr.



Contractor Involvement in Operational Testing

What Is Really Needed?

REAR ADM. R. E. BESAL, USN • S. K. WHITEHEAD

In the March-April 2001 edition of *Program Manager Magazine*, retired Army Col. John Stoddart reflects the voice of industry members of the ICOTE (Industrial Committee on Operational Test and Evaluation) as he describes the attitude within the operational test and evaluation community as secretive. He bases this perception upon a popular myth that "contractors, by law, can not be involved in any aspect of operational testing of their equipment," and that "...application of this myth to all areas of operational testing leads to longer acquisition periods, adds cost to the program, and weakens the close teamwork necessary to meet the challenges of providing the best equipment to the field."

Founded in Law

The "myth" that Col. Stoddart cites has its foundation in 10 U.S.C. Sec 2399 paragraph (d):

"In the case of a major defense acquisition program, no person employed by the contractor for the system being tested may be involved in the conduct of the operational test and evaluation required under subsection (a)."

Missing from Col. Stoddart's quotation was the next sentence, which is important to the complete context: "The limitation in the preceding sentence does not apply to the extent that the Secre-

When a program gets down to the brass tacks, there are three principal factors: cost, schedule, and performance ... When the best that can be achieved is two out of three of these, stop selling all three and be forthright on which one is not going to make it.

Besal is the Commander, Operational Test and Evaluation Force (COMOPTEVFOR), Norfolk, Va. Whitehead is the Technical Advisor, COMOPTEVFOR.

tary of Defense plans for persons employed by that contractor to be involved in the operation, maintenance, and support of the system being tested when the system is deployed in combat.”

Col. Stoddart advocates contractor participation because “Nowhere in the law does it say that a contractor can not have some involvement in the operational test, such as being allowed to observe the test; having access to copies of the Test and Evaluation Master Plan, including the operational test portion; being allowed to participate as an observer in Integrating Integrated Process Teams; or even being provided early test data.”

“Long Pole in the Tent”

We will readily second his viewpoint that a closer and more direct working relationship between the operational testers and industry is warranted and necessary. Yet we are concerned that Col. Stoddart and his cohorts believe that operational testing is the “long pole in the tent” in fielding a system, and that industry “observation” of Operational Test (OT) and access to program documentation will, in some manner, significantly improve the acquisition process.

While some small increase in efficiencies might be possible, we’d suggest that industry must look elsewhere for significant gains. Currently, Navy OT averages less than 1 percent of total program cost and takes less than 7 percent of program development time (assuming a five-year fielding effort). By these measures, our Navy operational test process is very efficient and effective.

The Reality

The acquisition process will not be noticeably shorter or cheaper with industry observation of testing and access to documents. What is needed is a shift in the pervasive mindset within the acquisition community that:

THE WARFIGHTER NEEDS IT NOW!

This sales pitch is used more often than the ubiquitous “It’s New and Improved” commercial marketing technique. What warfighters *really* need is a system that works reliably when they need it the most – during combat. A system that works in an unstressed, non-threatening situation is useless if it fails to perform during combat.

WE CAN MAKE IT RIGHT AFTER WE GET IT IN THE FLEET.

Providing warfighters with a system you know does not meet either their needs or requirements is a professional and moral disservice. Planning to “fix it after it’s fielded” places the operational tester in a no-win situation. We are charged to evaluate system performance to the level stated in the operational requirements document; if the system can’t perform to that level, it fails. If you know it won’t perform to that level beforehand, make that known and work the issue out with the requirements sponsor and operational tester. It’s frustrating for us – and expensive for industry – to find out after planning an operational test and expending funds that someone on the developmental side knew the system was unable to perform, but didn’t say anything in time to adjust planning.

“WE CAN DO IT BETTER, FASTER, AND CHEAPER.”

We’ll defer to the opinion of Edward Comstock, Principal Assistant for Acquisition, Programming and Budgeting in the office of the CNO. “When a program gets down to the brass tacks, there are three principal factors: cost, schedule, and performance. And the statement I often get from my program managers is, ‘I can give you two.’” When the best that can be achieved is two out of three of these, stop selling all three and be forthright on which one is not going to make it.

What It Will Take

If we’re to achieve “better, faster, and cheaper” acquisition, we need an awareness within the acquisition community that:

SOMETIMES YOU JUST CAN’T GET THERE FROM HERE.

At some point, preferably sooner than later, something may preclude a system from achieving its required capabilities. This could be cost, schedule, or a limitation in current technology. When this occurs, admit the reality of the situation and concede the effort. Invest the remaining resources in areas that offer greater promise of success.

Some technologies need to mature before they’re adaptable for military use. The inherent immaturity of leading-edge technologies often makes them unsuitable for use in a military environment (e.g., shipboard, foxhole, etc.). They have their place in demonstrations and experiments, but not in combat. Some are unstable, unproven, or just cost-prohibitive for widespread military use.

Commercial products don’t always translate easily into military environments. COTS [Commercial Off-the-Shelf Technology] products were not designed for combat, but for work in your home or office. Modifying COTS can lead away from interoperability, and too often has resulted in dysfunctional C4I [Command, Control, Communications, Computers and Intelligence] and weapon systems. The marketing technique of proclaiming “It’s COTS, so it doesn’t need testing,” is irresponsible risk management.

ONE PLACE A SCHEDULE CAN DRIVE A PROGRAM IS INTO THE GROUND.

Schedules are important, but they should not be the driving force of a program. Schedules are tools of measurement, better used to determine efficiency rather than when a system is ready for use. Your system development metrics need to be based on performance or achievement, not on the calendar. (We’ll concede that PMs have a real challenge here, because their funding is calendar-based.)

BETTING A PROGRAM ON A SINGLE TEST IS POOR RISK MANAGEMENT.

Would you try to graduate from a university with a degree in engineering by taking just one comprehensive final exam at the end of your four years? Unfortunately, some program managers try a variation of this idea when they reduce or just bypass the opportunity for assessments by operational testers, and place all their chips on the line in a single operational evaluation. Our experience in this regard has reconfirmed, "Hope is not a strategy for success."

OPERATIONAL TESTING IS THE USER'S QUALITY ASSURANCE PROCESS.

End-of-the-line quality assurance is a poor production practice. Too often operational testers are excluded from participating in developmental testing events and program reviews. Despite the clamor to "Get the OT community involved early," there is significant resistance to this concept. Many of the "traditional" excuses are still heard, e.g., "It's too early and the system still has problems." "If they see something, they'll tell everyone." "Program decisions are not the OTAs [Operational Test Agency's] concern – acquisition decisions don't affect OT."

Col. Stoddart poses the question, "Why can't industry have access to testing documents?" We ask the same question about Developmental Test (DT) documents (acquisition strategies, program baseline agreements, developmental test plans, data, and reports). The OT director needs DT and industry test plans, data, and reports to plan for efficient, non-redundant tests, and to capitalize on lessons learned.

KNOWING AND FOLLOWING THE "RULES" IS A SURE WAY TO SUCCEED.

We have a bounty of directives, regulations, instructions, policies, and procedures that govern acquisition and testing. The operational tester is dependent upon two of the fundamental items: an ORD [Operational Requirements Document] and a TEMP [Test and Evaluation Master Plan]. Both are requisite documents for any program, and both are

essential to conduct OT. A disciplined following of the guidance for acquisition and testing is critical to your success.

OPERATIONAL TESTERS TEST TO REQUIREMENTS, NOT CONTRACT SPECIFICATIONS.

It's the Operational Requirements! When industry is provided the specifications for a system, or the government releases a request for proposal, the ORD or Concept of Operations Document (COOD) should also be provided. The require-

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ments sponsor develops the ORD, and under the new DoD acquisition regulations, an ORD may not exist early in the program. In this case, a COOD (based on the Mission Needs Statement) will be the only document describing (albeit at a fairly high level) how the system will be used by the warfighter. The user, the Navy system developer, and the operational tester should develop the COOD jointly. The resource/requirements sponsor can then use the COOD to develop the ORD.

THE KEY WORD IN OPERATIONAL TEST AND EVALUATION IS OPERATIONAL.

In the intended environment, against the projected threat, employing typical maintainers and operators is how *operational* is defined. We are often asked, "How are you going to test the system?" Our response is that we will test it the way the Fleet will use it – in an end-to-end mission scenario.

NAVY OTA POSITION ON CONTRACTORS IN OPERATIONAL TESTING

The "value added" by controlled involvement of industry in operational testing outweighs the detriments. Observations of OT by qualified industry representatives could produce benefit in several areas. First, the observers could put into context any problems discovered during the test; they would see firsthand what worked and what didn't. They could provide feedback to the program office as well as their company, with an insight that they previously lacked. (How we'll be able to observe testing where only an operator and his or her system are present, e.g., an aircraft test, will require further exploration. We are confident, however, situations such as these are not insurmountable.)

Currently, we are developing a standard operating policy that will define how industry representatives will be allowed to observe our operational testing. It will include a requirement for the representative to execute a non-interference agreement, precluding any interaction with test personnel or equipment unless specifically requested by the operational test director. The observer will be allowed to take notes and will be provided data, *with program office permission*, to analyze failures if they occur.

Access to documentation is another area where the benefits outweigh perceived risks. Access to the ORD is essential if industry is to understand what the warfighter needs. Contract vehicles and specifications are not what the OT community uses as a measuring tool. *It's the Requirements.* When a Mission Needs Statement is translated to an ORD, and

an ORD is translated to a contract specification, "things" can get lost. *Keep Your Eye on the Requirements.*

Contractor access to the approved TEMP (with contractual or financial information redacted) is sensible. The TEMP is a program office document, however, and its control is the program office's responsibility and prerogative. Access to approved OT test plans makes sense too. Our standard procedure is to offer the program manager a brief on the test plan after it has been approved, and the contractor might find benefit in attending. For some reason, our experience has been that program managers generally decline this brief.

Industry observer participation in IPTs [Integrated Product Teams] is also an issue not in the control of the Navy OT community. Program managers charter IPTs, and they or their empowered representative chairs them. We are invited participants and have no control of or

influence on whom is allowed to attend, observe, or participate. It seems reasonable to include industry representatives to comply with OSD [Office of the Secretary of Defense] and Navy acquisition reform initiatives of partnering with industry.

With regard to providing early test data to industry, the current procedure for Navy OT is to provide the program manager, as expeditiously as possible, all data relating to a system failure or anomaly discovered during OT. We accomplished this by sending an anomaly message from COMOPTEVFOR to the program manager. The program office restricts us from interfacing directly with industry developers. This prevents the possibility of perceived tasking to correct or investigate the cause of an anomaly. Direct operational tester feedback to industry developers might be misconstrued as the tester setting a requirement for the system through informal discussions. We do not want to be placed

in a position of defending a casual "It would be nice if the system could..." type remark that the developer mistakenly construes as a requirement to pass testing.

Some Contractors' Involvement Is Legal and Can be Beneficial

Industry, Program Managers, and Operational Testers all can benefit from the open communication advocated by Col. Stoddart – but we must be realistic in our expectations of improvements in quality, economy, and efficiency. Our decision to proceed with this initiative is grounded solely in the belief that the potential for "good" (more effective and suitable equipment in the Fleet) outweighs that for "bad" (perception of loss of "independence" in operational test and evaluation).

Editor's Note: The authors welcome questions or comments on this article. Contact Whitehead at WhiteheS@cotf.navy.mil.

PENTAGON SEEKS IDEAS ON COMBATING TERRORISM

The Department of Defense announced today [Oct. 25, 2001] that the Under Secretary of Defense for Acquisition, Technology and Logistics and the Combating Terrorism Technology Support Office Technical Support Working Group are jointly sponsoring a Broad Agency Announcement (BAA) asking for help in fighting terrorism.

The BAA, issued Oct. 23 (No. 02-Q-4655), specifically seeks help in combating terrorism, defeating difficult targets, conducting protracted operations in remote areas, and developing countermeasures to weapons of mass destruction. Its objective is to find concepts that can be developed and fielded within 12 to 18 months.

The BAA provides for a three-phase process in which interested parties initially submit a one-page description of their concept. Initial responses are due by Dec. 23, 2001. After a review of a submission and if DoD is interested in further information, the sub-

mitter will then be asked to provide a more detailed description of up to 12 pages of the idea. Submitters of concepts that the Department is not interested in pursuing further will be so notified.

DoD will evaluate phase two submissions and ask those who have offered the most promising ideas to submit full proposals in a third phase that may form the basis for a contract. Phase two submitters who are not asked to submit full proposals will be so notified. Submitters of a full phase three proposal that is not accepted by the Department may request a formal debriefing. Debriefings will not be provided to phase one and phase two submitters whose concepts were not accepted.

Interested parties can obtain more information concerning this BAA by visiting <http://www.bids.tswg.gov>.

Editor's Note: This information is in the public domain at <http://www.defenselink.mil/news>.

Air Force Awards F-22 Production Contract

Washington, D.C. – The Air Force yesterday awarded the F-22 Low Rate Initial production contracts for the F-22 program. Lockheed Martin Corporation, Lockheed Martin Aeronautical Systems Company, Marietta, Ga., was awarded a contract totaling \$868 million to complete acquisition of 10 Lot 1 F-22 aircraft, associated equipment, and program support. The Air Force also awarded a contract for \$226 million to United Technologies Corp., Pratt and Whitney, East Hartford, Conn., to complete 20 Lot 1 F119-PW-100 engines for the F-22 aircraft and associated field support. This completes contract actions for these aircraft/engines at a total procurement cost of \$2.1 billion.

The Under Secretary of Defense (Acquisition, Technology and Logistics) issued an Acquisition Decision Memorandum on Sept. 14, 2001, approving the program entry into Low-Rate Initial Production. This memorandum approved the award of the Lot

1 contract for 10 aircraft and long lead for Lot 2 procurement of 13 aircraft. In addition, it approved the exit criteria for Lot 2 and for long lead for Lot 3 procurement of 21 aircraft.

The Air Force intends to buy up to 331 aircraft within the cost cap by working with the Raptor industry team to identify cost savings and program efficiencies.

James G. Roche, Secretary of the Air Force, said, "This decision to begin production on the F-22 Raptor is good news for the Air Force and great news for the country. We now can begin to lay a firm foundation for the transformational capabilities we need to guarantee global strike superiority well into the 21st century."

Editor's Note: This information is in the public domain at <http://www.af.mil/news>.




F-22 Raptor
Photo courtesy Boeing

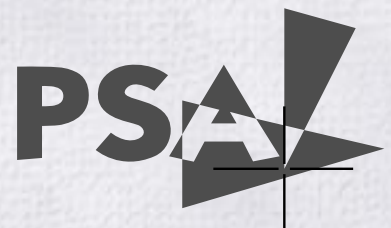
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Aldridge Approves Creation of Facilities Engineering Acquisition Career Field



THE UNDER SECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, D.C. 20301-3010

16 JUL 2001



MEMORANDUM FOR: SEE DISTRIBUTION

SUBJECT: Establishment of the Facilities Engineering Career Field and Designation of a Facilities Engineering Functional Advisor

The Defense Acquisition Workforce Improvement Act of 1990, as amended, authorizes the Under Secretary of Defense (Acquisition, Technology and Logistics), acting under the authority, direction, and control of the Secretary of Defense, to designate acquisition positions and to establish education, training, and experience requirements and career paths for such positions. The Director of Acquisition Education, Training and Career Development (AET&CD) assists me in performing these statutory responsibilities by administering the DoD Acquisition Career Development Program. I have designated Functional Advisors to assist the Director, AET&CD by providing advice on education, training, and experience standards for their functional areas.

The Tri-Service Engineering Executive Board has concluded that a new career field with appropriate education, training, and experience standards is required to address the acquisition functions that the acquisition and technology workforce members in the Naval Facilities Engineering Command, United States Army Corps of Engineers, and Air Force Civil Engineering perform. The Board recommended that I establish a Facilities Engineering Acquisition Career Field.

Based on the Board's recommendation, I approve the creation of a Facilities Engineering Acquisition Career Field and designate Dr. Get W. Moy, Naval Facilities Engineering Command, as the Functional Advisor. The position of Functional Advisor will have a term of duty of approximately two years and will be rotated among the Military Departments.

Working with the Director, AET&CD, Dr. Moy will:

- a. Act as the Department-wide proponent for the identification and accomplishment of Facilities Engineering career development requirements.
- b. Develop a recommended Facilities Engineering position category description and career path for inclusion in DoD 5000.52-M, Acquisition Career Development Program.



c Advise me in developing policies and procedures for civilian and military personnel who occupy positions in the Facilities Engineering acquisition field.

This memorandum is effective immediately. The point of contact for this correspondence is Steve Tkac, AET&CD, telephone number (703) 578-2726 or e-mail stephen.tkac@osd.mil.



E.C. Aldridge, Jr.

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Editor s Note: This information is in the public domain at <http://cmcell.navfac.navy.mil/whats.asp>.

DAWIA Certification Now Available for Facilities Engineering Career Field

SYLWIA GASIOREK-NELSON

In a ceremony hosted by Navy Rear Adm. Michael R. Johnson, Commander, Naval Facilities Engineering Command (NAVFAC), the Facilities Engineering (FE) career field officially became a separate career field, covered by the 1990 Defense Acquisition Workforce Improvement Act (DAWIA) legislation. Representing the Defense Acquisition University (DAU) at the Oct. 2 ceremony held at the Washington Navy Yard was Dr. Bob Ainsley, DAU Associate Provost.

New Career Field

A Tri-Service Executive Board, appointed by Under Secretary of Defense for Acquisition, Technology and Logistics, Edward C. "Pete" Aldridge Jr., agreed that a new career field with appropriate education, training, and experience standards was fundamental to the performance of the acquisition and technology workforce members in NAVFAC, U.S. Army Corps of Engineers, and Air Force Civil Engineering. Based on the Board recommendation, Aldridge approved the creation of the FE career field on July 16. He also designated Dr. Get W. Moy, Chief Engineer, NAVFAC, as the first FE Career Field Functional Advisor – a position which will be rotated among the Military Departments every two years.

Aldridge authorized the new FE career field to recognize the role performed by personnel who work in the facilities acquisition area. The new field encompasses a variety of professional individ-

Navy Rear Adm. Michael R. Johnson, Commander, Naval Facilities Engineering Command (NAVFAC), opening the FE Career Field reception and introducing the attendees.



uals with diverse skills in the design, construction, and life cycle maintenance of military installations, facilities, civil works projects, airfields, roadways, and ocean facilities. It involves all facets of life cycle management from planning through disposal, including design, construction, environmental protection, base operations and support, housing,

The Military Departments' four Chief Engineers. From left: Moy; Dwight Beranek, Army Corps of Engineers; Mike Ai-mone, Air Force Civil Engineering; and Paul Hubbel, Marine Corps Civil Engineering.



Gasiorek-Nelson is a full-time contract editor for Program Manager magazine.

real estate, and real property maintenance.

Additional duties include advising or assisting commanders, and acting as or advising program managers and other officials, as necessary, in executing all aspects of their responsibilities for facility management; and the mitigation/elimination of environmental im-

pact in direct support of the Defense Acquisition process.

About DAWIA

DAWIA was signed into law in November 1990. It requires the Secretary of Defense, acting through the Under Secretary of Defense (Acquisition, Technology and Logistics), to establish education and training standards, requirements, and courses for the civilian and military acquisition workforce. The requirements are based on the complexities of the job and are listed in DoD 5000.52-M, Career Development Program for Acquisition Personnel.

The establishment of DAWIA was to improve the acquisition workforce through education, training, and experience. Participating in the continuous learning process helps the acquisition workforce to:

- Stay current in acquisition functional areas, acquisition and logistics excellence, and emerging acquisition policy.
- Complete mandatory and assignment-specific training required for higher levels of DAWIA certification.
- Complete required training for a specific career field.
- Cross-train to become familiar with, or certified in, multiple acquisition career fields.
- Complete an undergraduate or advanced degree.
- Learn by experience.
- Develop leadership and management skills.

Acquisition Career Fields Under DAWIA

Military and civilian personnel may now choose from the following 12 acquisition career fields:

- Acquisition Logistics
- Auditing
- Business, Cost Estimating and Financial Management
- Information Technology
- Contracting
- Facilities Engineering
- Industrial Property Management
- Manufacturing, Production, and Quality Assurance
- Program Management
- Purchasing
- Test and Evaluation
- Systems Planning, Research, Development, and Engineering.

Training Opportunities for the Acquisition Workforce

The Defense Acquisition University (DAU) provides mandatory, assignment-specific, and continuing education courses for military and civilian acquisition personnel within DoD. Its mission is to provide the acquisition community with the right learning products and services to make smart business decisions. Currently, DAU offers a wide variety of Continuous Learning courses. Information about the career fields and course descriptions is available in the DAU Catalog, Chapters 3 and 4, and on the Web at <http://www.dau.mil>.



Dr. James McMichael, Director for Acquisition Education, Training, and Career Development, Defense Acquisition University, presents Dr. Get Moy, Chief Engineer, NAVFAC, the FE Career Field Advisor's Certificate.



Issues and Challenges Facing the T&E Community With Rapid Weapon System Technology Changes

OTA Support for Advanced Concept Technology Demonstrations

COL. PATRICK J. DULIN, USMC

Are streamlined acquisition policies really able to “rapidly transition advanced technology into the hands of the unified commanders?” Or, are they just a “Rush to Failure,” forcing the test community to deflate giddy warfighter anticipation with Operational Test (OT) failure reports? Clearly, both triumphs and failures have emerged from acquisition streamlining efforts. The Test and Evaluation (T&E) community is struggling to develop innovative techniques to support streamlining efforts.

In that vein, this article proposes employing the Joint Interoperability Test Command-developed technique of a multi-Service Operational Test Agency (OTA) team in support of the Advanced Concept Technology Demonstration (ACTD) streamlining technique for rapid technology insertion.

To evaluate the usefulness of this proposal, we need to answer two primary questions. First of all, *why* do this, and secondly, *how* would you accomplish this?

Why?

In responding to the first question, “*Why* employ a multi-Service OTA team in support of an ACTD,” a precise definition and description of an ACTD and its associated dynamics are in order, followed, by an explanation of the advantages and disadvantages of OTA support for ACTDs.

Advanced Concept Technology Demonstrations

Currently posted to the DoD ACTD Web site at <http://www.acq.osd.mil/actd/intro.htm> is the official definition of an ACTD:

“Advanced Concept Technology Demonstrations exploit mature and maturing technologies to solve important military problems. ACTDs are designed to allow users to gain an understanding of proposed new capabilities for which there is no user experience base. Specifically, they provide warfighters an opportunity to develop and refine their concept of operations to fully exploit the capability under evaluation; to evolve their operational requirements as they gain experience and understanding of the capability; as well as to operate militarily useful quantities of prototype systems in realistic military demonstrations; and on that basis, make an assessment of the military utility of the proposed capability.”

Now the dynamics of executing an ACTD are not quite as straightforward as the definition. In brief, DoD approves the ACTD and tasks the geographic Commander-in-Chief (CINC) of a Unified Command to execute the ACTD. Normally, a government lab or office such as the Marine Corps Warfighting Lab or Office of Naval Research is also responsible for providing the hardware/software to be demonstrated during the ACTD, and that lab or office is in direct support of the CINC conducting the ACTD.

The CINC, in turn, identifies an appropriate exercise that one or more of his or her Major Subordinate Commands (MSC) will be conducting and tasks the MSC to integrate the ACTD into the exercise. Of course the MSC is, in all likelihood, already over-tasked with a high tempo of operations. The MSC's primary concern will not be the ACTD, but rather using the exercise under design to train the MSC's subordinate forces. As such, the MSC will optimize the exercise scenario being built to meet MSC unique training needs, and not necessarily to create a scenario that demonstrates the ACTD in a system-of-systems operationally relevant scenario.

Unfortunately, the government lab personnel in support of the CINC to provide the equipment to be demonstrated are not normally warfighters with operational backgrounds, but rather skilled technicians. They do not normally have the experience to help the MSC craft an exercise scenario that meets both the training audience needs and the ACTD's needs, nor do these technicians normally have a complete portrait of what will constitute the system-of-systems with which the ACTD technology must interoperate when fielded in the near future. The result is normally friction where the MSC, without discretionary time, struggles with the government lab personnel who are demanding more exercise time for the ACTD.

OTA Involvement

To turn this situation around, an OTA team could assist a harried MSC with

Dulin is a former Chief of Staff, for the Marine Reserve Forces. A recent graduate of DAU's Advanced Program management Course (APMC 01-2), he is currently assigned as the Program Manager for Force Protection Equipment at the Marine Corps Systems Command, Marine Corps Base, Quantico, Va.

help in crafting an exercise scenario that meets MSC forces' training needs, while also replicating a scenario in which the ACTD could be successfully demonstrated. Simply, the OTA team includes operators who would speak the same professional language as the MSC warfighter. Additionally, an OTA team would understand the evolving, joint system-of-systems requirements far better than the MSC, by virtue of the OTA team's day-to-day activities with multiple maturing acquisition programs. The OTA team could more realistically translate the impact of these maturing programs into the developing exercise scenario.

So far, all the advantages we have discussed have been one-sided in favor of the CINC conducting the ACTD, but the OTA itself would reap benefits from this relationship. OTA involvement would provide an opportunity to reduce current friction resulting from a common misperception among OTAs that ACTDs have "complicated the test process." It would also provide OTA teams with current updates on the specifics of operational issues facing the warfighter, such as limited range availability. Additionally, it would allow the OTA team to influence incorporation of testable requirements/capabilities in development efforts subsequent to the ACTD.

For example, despite a very successful 1998 Commander in Chief Pacific (CINCPAC) ACTD – "Extending the Littoral Battlefield (ELB)" – the Government Accounting Office, in a May 2001 report entitled, *Navy Acquisitions: Improved Littoral Warfighting Capabilities Needed*, criticized the Navy for slow progress in improving "Littoral Warfighting Capabilities." Perhaps some early OTA team influence could have helped expedite developments. Most importantly, OTA support would undergird acquisition streamlining efforts by Secretary of Defense Donald Rumsfeld, who has indicated he will apply best business practices in DoD acquisition such as "Fast-Track procedures to minimize development time" and will introduce more ACTDs as a key "Fast-Track" technique.

AN OTA TEAM COULD ASSIST A HARRIED MSC WITH HELP IN CRAFTING AN EXERCISE SCENARIO THAT MEETS MSC FORCES' TRAINING NEEDS. WHILE ALSO REPLICATING A SCENARIO IN WHICH THE ACTD COULD BE SUCCESSFULLY DEMONSTRATED.

Despite all these advantages, there remain, nonetheless, three distinct disadvantages to employing multi-Service OTA teams in support of ACTDs. To be straightforward, supporting ACTDs is simply not part of an OTA's job description. It is not what OTAs were designed to do. ACTDs use demonstration prototypes and not production representative models, making an Early Operational Assessment (EOA) by an OTA team somewhat problematic. Of greater concern is that OTAs are chronically short manpower and funds across all Services and simply could not support all ACTDs while still completing their chartered duties.

How?

As we consider these disadvantages and balance them against the advantages, also worth considering is just how we could accomplish OTA team support of ACTDs. Since the OTA would be in support of a CINC, it appears appropriate to borrow a CINC technique. Specifically, we would propose using the CINCPAC Deployable Joint Task Force Augmentation Cell model. This model provides direct, deployable expert augmentation of MSC staffs. It would also mean that OTA personnel could be tasked with more than testing activities during execution of an ACTD, since they would temporarily be part of the MSC staff. This has the advantage of breaking down functional and staff stovepipes,

while not compromising OTA objectivity – because the MSC is not the ACTD equipment developer.

Concurrently, it would foster a true team attitude between the MSC staff and the OTA team for the duration of the ACTD. It also implies early involvement by OTA teams during the planning stages to shape exercise scenario development that, in turn, could be leveraged through long-distance planning efforts capitalizing the evolving integrated digital environment. Long-distance information exchange would not be limited to the planning stages, but could also enhance production of the EOA during ACTD execution with distributed simulation test and evaluation support.

Note that this proposal is not just an example of throwing more people at a problem. It must be a focused effort. If not focused, the OTA team could create problems vice enhance performance. Focused teams tailored to ACTD-specific requirements are what will provide value added.

OTAs Need Manpower, Funds

To conclude, we have reviewed many attractive advantages to employing OTA teams in support of ACTDs. However, until manpower and funds are made available to the OTAs, providing these value-added teams is just not feasible. If DoD is serious about improving streamlining, increasing the number of ACTDs and their quality – through provision of requisite funding and manpower to the OTAs – would *markedly* strengthen performance safety, and user satisfaction for today and tomorrow's warfighters.

Finally, the proposal presented here should not be viewed as a panacea; rather, its utility is best described as a test and evaluation technique, wholly suited for the *Program Manager's Tool Kit* of streamlined acquisition and logistics best practices.

Editor's Note: The author welcomes questions or comments on this article. Please contact him at DulinPJ@MCSC.USMC.MIL.

Wynne Addresses APMC 01-2 Graduates

Principal Deputy Under Secretary of Defense for Acquisition, Technology and Logistics Michael W. Wynne (second from left) presents an oversize, symbolic diploma, attesting to the graduation of 227 students from the Defense Acquisition University's Advanced Program Management Course (APMC 01-2). Wynne served as keynote speaker for the graduation, held in Howell Auditorium, at Fort Belvoir, Va., on Aug.

10. Joining him in the presentation is DAU Commandant Army Col. (P) James R. Moran (right). Also pictured are Section Leaders from APMC 01-2. From left: Marine Col. John Garner; Wynne; Arnold Regan, Air Force civilian; Navy Capt. Larry McCracken; Navy Capt. Steve Lehr; Kim Robson, National Imagery and Mapping Agency; Army Lt. Col. Clay Miller; Marine Col. Pat Dulin; Air Force Col. Mike Underwood; and Moran.



Photo by Army Sgt. Kevin Moses

IN MEMORIAM

Col. Thomas V. Forburger, USA (Ret.)

The Defense Acquisition University has received word of the death of retired Army Col. Thomas V. Forburger on Oct. 7, 2001. Forburger served as seventh Commandant of the Defense Systems Management College from January 1984 – April 1984. Prior to his appointment as Commandant, he served as the Deputy Commandant (June 1983 to January 1984), and as the Dean, Department of Administration and Support (July 1982 to June 1983). On April 1, 1984, Forburger resumed his former role of Deputy Commandant upon the assignment of Navy Rear Adm. Roger D. Johnson as the College's eighth Commandant.





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*Industry and Non-DoD e-mail arthur.mccormick@dau.mil for special information.

Lockheed Martin Team Wins Joint Strike Fighter Competition

JIM GARAMONE

WASHINGTON, Oct. 26, 2001 – Lockheed-Martin has won the largest military contract ever – a possible \$200 billion competition – to build the Joint Strike Fighter.

Air Force Secretary Jim Roche said on the basis of strengths, weaknesses, and degrees of risk of the program, that the Lockheed Martin team was the winner on a “best-value” basis. He said Lockheed Martin was a clear winner over the team led by Boeing.

Total cost of the contract to enter the systems development and demonstration phase is \$19 billion. Pratt and Whitney has a \$4 billion contract to design and build propulsion systems for the craft. The British will contribute \$2 billion to the program.

Lockheed Martin teamed with Northrop Grumman and British Aerospace on the project. Pete Aldridge, Under Secretary of Defense for Acquisition, Technology and Logistics, said that both teams “met or exceeded the performance objectives established for the aircraft and have met the established criteria and technical maturity for entering the next phase of the program.”

The first operational Joint Strike Fighter, now enumerated as the F-35, is scheduled for delivery in fiscal 2008.

The F-35 is actually a family of three aircraft designed to replace aircraft in the Air Force, Navy, Marine Corps, and the British military. Other nations interested in participating in the program include The Netherlands, Belgium, and Norway.

Plans call for the F-35 to be the world's premier strike aircraft through 2040, Aldridge said. “It will provide air-to-air capability second only to the F-22 air superiority fighter,” he said. The plane will allow the Air Force to field an almost all-stealth fighter force by 2025. The Navy and Marine variants will be the first deployment of an “all-aspect” stealth airplane.



Lockheed Martin Joint Strike Fighter

Photo by Tom Reynolds

The Air Force's F-35A version of the craft is a conventional takeoff and landing airplane to replace the F-16 Falcon and A-10 Thunderbolt II. It will partner with the F-22 Raptor. The Air Force plans to buy 1,763 of the aircraft.

The Navy's F-35B version of the plane is a carrier-based strike fighter to complement the F/A-18E/F Super Hornet. It will replace earlier versions of the F/A-18 as well as the A-6 Intruder, which already has left the inventory. The Navy plans to purchase 480 JSF aircraft.

The Marine Corps, Royal Navy, and Royal Air Force need and want a short takeoff and vertical landing aircraft, dubbed the F-35C. The Marines want 609 of the new aircraft to replace their AV-8B Harriers and F/A-18 Hornets. The British want 150 to replace Sea Harriers and GR.7 Tornado fighters.

Roche said that if the military could buy the planes today, the Air Force version would cost \$40 million per copy. Navy and Marine Corps versions would be “under \$50 million.”

Editor's Note: This information is in the public domain at <http://www.defenselink.mil/news>.

Retired Navy Capt. **Dave Fitch** became the Executive Director, Curricula Development and Support Center, effective April 9, 2001. Prior to his retirement from military service on Oct. 1, 1998, Fitch served as Program Manager of the Multifunctional Information Distribution System (MIDS), a Packard Award-winning program. Fitch joins DAU after three years in private industry with Rockwell-Collins in Rosslyn, Va.

Retired Navy Cmdr. **Jill Garzone** rejoined the University as the DAU Registrar, Administration and Services, effective June 4, 2001. Prior to her retirement from active duty in March 2001, Garzone was the Director of Services and Security for the Office of the Chief of Naval Operations, Pentagon, Washington D.C. She first joined the Defense Systems Management College staff in October 1994 and remained Director of Human Resources and Administration until her reassignment to the Pentagon in September 1998.

Jerry **Guiton** became the DAU Chief Financial Officer, effective Aug. 26, 2001. Guiton joined the University staff in 1994 as a Budget Analyst. Prior to joining DAU, he was a budget analyst with the Defense Logistics Agency. Guiton began his federal career in 1988.

Linda S. **Perry** joined the DAU staff as the Executive Secretary to the President, effective Sept. 10, 2001. Perry comes to the University from Headquarters, Army Materiel Command, Alexandria, Va., where she served as the Executive Secretary to the Deputy Chief of Staff for Logistics and Readiness from March 1999 to September 2001.

Armey Lt. Col. **Justin Porto** became the DAU Information Systems Director, Administration and Services, effective July 1, 2001. Porto comes to the University from the Software Engineering Center – Belvoir, where he served as Director of the Executive Systems Software Directorate.

Navy Cmdr. **David T. Pearson** became the Military Assistant and Executive Officer, Office of the President, effective Sept. 10, 2001. Pearson comes to the University from the Navy's Undersea Weapons Program Office, where he served as the Director of Navy Torpedo Testing and Lightweight Torpedo Fleet Readiness Officer.

Defense Procurement Acquisition Exchange Program

On Oct. 30, Deidre Lee, the Director of Defense Procurement, was pleased to announce the first group of Defense Procurement Acquisition Exchange Program (AEP) participants. This initial group included Tammy Bair (Army), Rex Elliott (NASA), Mariah Houton (Air Force), Patricia Kobus (DCMA), Terry Moore (DCMA), Karen Petering (Air Force), and Barbara Thompson (Navy). They will arrive over the next several months and will undertake challenging projects supporting the mission of the Office of the Director of Defense Procurement.

The AEP is intended to provide a unique developmental experience

for high-caliber individuals in the acquisition and acquisition-related career fields. The selected individuals will be afforded opportunities to enhance their acquisition and senior-level policy skills and to prepare themselves for future challenging positions within the acquisition community.

An AEP announcement will be made at least once a year with specific projects developed by the Defense Procurement staff. Future opportunities will be posted on the Defense Procurement Web site at <http://www.acq.osd.mil/dp>. For additional information on the program, contact Phil Degen at 703-697-8334 or e-mail philip.degen@osd.mil.

Send Us Your Suggested Research Topics

The Defense Acquisition University (DAU) is soliciting input from the Acquisition Workforce (AWF) for suggested research topics or issues to assist the AWF in achieving their short- and long-range mission goals and objectives. If you have a suggested research topic, please contact Dr. James Dobbins, DAU Director of Research, at jim.dobbins@dau.mil, or call 703-805-5416.

AIRBORNE ENCOUNTER



Photo by Richard Mattox

Delta Airlines pilot Robert Wade Mason of Niceville, Fla., gives the "thumbs up" prior to takeoff in a McDonnell Douglas MD-80 from Orlando. Recently, a member of the DAU staff who happened to be aboard Mason's flight, learned during casual conversation that Mason was a graduate of the Defense Systems

Management College Program Management Course (PMC 94-1). Though DAU does not teach piloting skills, we *can* teach you management skills that will translate to whatever career aspirations you may harbor. Check out the Dau Web site at <http://www.dau.mil>.

Officers Gain Corporate Experience in Fellows Program

SGT. 1ST CLASS KATHLEEN T. RHEM, USA

WASHINGTON, Oct. 29, 2001 – Many people believe the military has “its own way of doing things” and will never change. But DoD officials are trying to debunk that thought through a program that gains military officers hands-on experience in civilian corporations.

Two officers from each Service are chosen every year to participate in the Secretary of Defense Corporate Fellows Program. The officers, in grades O-5 or O-6, spend one year working at a high level in a civilian corporation to learn other ways of doing business, program director Eric Briggs said.

“It’s an opportunity for normally busy military guys that have a career-path set out – the operators, the fliers, the tank drivers, and the ship drivers, and so forth – to see how the outside world is doing business, having to continually innovate, adapt, and change in a competitive environment,” Briggs explained.

He said civilian corporations are sometimes more “open to change” than the Defense Department, and that this is a valuable lesson for military officers to learn. Military officers are generally pretty savvy on new technology, he said, but “It’s the organizations and processes that are perhaps more important than the new technology itself.”

Army Col. Colin Dunn, an alumnus of the program, agreed. The current commander of Army Broadcasting Service in Alexandria, Va., spent a year with the Cable News Network [CNN] in 1996 and 1997. He said the Corporate Fellows Program broadened his perspective.

“There are many other ways of doing things besides the military way,” Dunn said. “And you find that by immersing yourself in a corporation that you find best practices, best business practices that are eminently applicable to what we do in DoD.”

Army, Air Force, and Marine Corps officers are chosen for the program when their records go before Senior Service College selection boards. Navy officers have to apply directly to their Service’s Federal Executive Fellowship Program, Briggs said.

The program has both long- and short-term goals. In the short term, participants brief the Secretary of Defense, other senior leaders in the Secretary’s office, and their own Services’ senior leaders after completing their year in the corporate world. “Whatever relevant information they find when they’re out there, they can come back and talk directly to the people in the Pentagon who can do something about it,” Briggs said.

The more important, long-term benefit of the program is in opening these future

senior leaders' eyes that there's more than one way of doing business. "When the officers come back, they're motivated to change their Services, improve their Services, and improve DoD," Briggs said.

He quoted the old adage that you can't teach an old dog new tricks. "Maybe the real secret is to teach the young dogs better tricks as they're coming up, and then they're going to be making smarter decisions for the rest of their military careers," Briggs said. "They're going to be more knowledgeable about the outside world, and so it's going to improve them and, in turn, improve the Department in the long-term."

Dunn agreed with this as well. He said his year at CNN taught him to be a better leader and to be more accessible to his troops. Dunn said he believes there is a "good idea firewall" in many military organizations. "It might be a person, it might be a policy, or bureaucracy that stops you from giving the good idea to the person or people who need to hear it," he said.

The most successful organizations break down these firewalls and let good ideas in, he said. He also noted that people at CNN weren't punished for having ideas that ultimately didn't work. On the contrary, he said, those persons were rewarded for trying.

"So what you had was a lot of folks who were taking chances," he said. "You might

not have victory every time, but because people knew they could take a chance, they were willing to come forward with ideas."

The company harnessed the innovative capability of the entire organization, not just the leaders, "which is what we do in government," Dunn said.

Another thing alumni of the program have learned is that it's important to manage change. "Change is no easier on the outside than it is in the military," Briggs said. "We tend to disparage the DoD and say, 'Oh, we're all a bunch of dinosaurs and we can never change.' But change is not any easier on the outside.

"*Change management* is a term most of our officers haven't heard of until they come to the program," he said. "Corporate leaders don't just write a directive and expect significant change to happen. They also need a plan for how to lead their personnel through the change that will take place. And the senior leaders stay involved.

For more information on the Secretary of Defense Corporate Fellows Program, visit the program's Internet home page at <http://www.ndu.edu/sdcfp/sdcfhom.html>.

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DCMA Sees Warfighters Get What They Need, When They Need It

RUDI WILLIAMS

SPRINGFIELD, Va., Oct. 31, 2001 — "I can tell every soldier, sailor, airman and Marine that it's our job to make sure that what comes from a contractor — the food you eat, the clothing you wear, the weapon you shoot and the system you operate — is quality and it's there on time," said Army Brig. Gen. Ed Harrington.

As director of the Defense Contract Management Agency in Springfield, Va., Harrington is DoD's senior contract manager. His mammoth responsibilities include ensuring that all DoD acquisition programs, supplies and services are delivered on time, within cost, and meet performance standards.

That involves management of more than 325,000 prime contracts presently valued at \$852 billion. With a workforce of more than 12,000 civilian and military professionals from all Services, the agency is split into three districts — East, West, and International. Harrington said his people are involved with everything servicemembers eat, wear, shoot, or operate.

DCMA's network of 65 contract management offices is responsible for work performed at more than 900 far-flung operating locations worldwide. The agency's myriad tasks include ensuring that quality products as diverse as fighter aircraft and mortar sights are delivered on time at reasonable prices. It ensures the same for components, spare parts and assemblies for weapon systems readiness.

DCMA is a combat support agency under the authority, direction, and control of the Under Secretary of Defense for Acquisition, Technology and Logistics. The agency was created to



Army Brig. Gen. Edward M. Harrington, director of the Defense Contract Management Agency, said his people are involved with everything servicemembers eat, wear, shoot, or operate.

Photo by Rudi Williams

streamline and modernize DoD's acquisition strategies and practices.

Harrington said the agency has the double-barreled mission of providing world-class customer service while leading the revolution in business affairs that is transforming DoD's acquisition process.

He calls DCMA "a leading edge organization," and he should know. He served twice in the agency's predecessor, the Defense Contract Management Command, before becoming DCMA's second commander. He also commanded DCMC Syracuse, N.Y., from July 1994

to January 1997 and the Defense Contract Management District East in Boston from May 1998 to September 1999. The general has also served in numerous positions in the Army's acquisition and technology community.

Harrington recently chartered the agency's senior leadership to assess the organization's strengths, weaknesses, opportunities, and threats. He also asked employees, customers, and stakeholders if the agency is living up to their expectations.

Emphasizing that the agency is focused on its customers' needs, he said, "We've reoriented the agency's operations elements and can now connect more closely with our customers – the systems managers, system program directors, and the program executive officers of each Service. We want to know what else we can do to support them.

"We've initiated a 360-degree assessment to assess where we are as an organization and as a team," the general noted. "In doing this, we are going to focus on our people. DCMA isn't a bunch of computers, paperwork, and contract files. It is all of our team members and how they work together for our customers. They have to have resources to get the job done and to develop, both individually and technically. We have to ensure that we have equal opportunity and a culture of diversity here to help everybody grow.

"We're also working with our customers, because they may not be aware of what we're doing or we're not aware of what they need," Harrington said.

That includes everything from seeking feedback from Service Acquisition Executives [and] DoD acquisition, technology, and logistics staffs, to the program officers, project managers, and assistant program directors as to how well the agency supports operational readiness of weapon systems, he said.

"My biggest challenge is enabling our workforce to do better by providing them the tools

– software systems, automation, and communications capability ... to provide information more quickly to our customers," the general said.

He has gotten input from project managers, weapon systems managers, spare parts buyers, and others to help him make decisions.

One way DCMA helps its customers is by stationing a representative in manufacturing plants. "They oversee the production and delivery of spare parts, components and major weapon systems we provide for the warfighter," Harrington noted. "The better and faster they can gather and send information to our customers, the better we'll be able to use those precious taxpayers' dollars," he said. "So it's the timeliness and accuracy of information that really counts with the customer."

Asked what being a combat support agency means to DCMA, Harrington said, "It means being in Macedonia, Kosovo, Bosnia, Haiti, and actually managing contract actions for the warfighters on the ground."

Being in touch with the warfighters is essential, he said. He pointed out that figuring out what the future holds for warfighters is the job of warfighting commanders and the Joint Staff. Therefore, he said, being in close contact with those commanders and their staffs is essential to helping DCMA do its job.

"We need to be in touch with those commanders and deeply involved with the Joint Staff," Harrington emphasized. "The only way we can do that is to put some of our people on the ground with the warfighting CINCs' staffs. Being in touch will help us better understand what they are planning, how they are preparing for future conflicts, and what our role will be in supporting them."

When the nation goes to war, DCMA focuses on warfighting commanders' needs and how soon the agency can get systems and supply items to them. "Our job is to make sure that spares, components, and assemblies for major

weapon systems are presented to the government for acceptance," he said. "We're the official government activity that accepts items and authorizes payment of contracts. Our grand challenge is to ensure that stuff goes out the contractors' doors perfect every time."

DCMA ensures that what's written in a contract is correct and meets quality standards. For example, when an organization like the Defense Logistics Agency lets a contract, it has DCMA ensure that the contractor controls costs and delivers quality products on time.

Since Sept. 11, the agency's military people have been wearing their battle dress uniforms or service equivalents as a reminder of who they work for – the warfighters, the general said.

"It keeps them in touch with the ultimate customer and serves to remind our military people of where they came and how they got here," Harrington noted. "There are others just like them stationed all over the world who, at a moment's notice, can go into harm's way.

"So I figured we should wear those uniforms to strengthen our linkage with our ultimate customers and to give us a better feeling for why we're doing what we do," the general said. "Our many civilian employees get the same message when they see their military colleagues in BDUs or other utility uniforms."

However, there is a time when civilians wear BDUs. They wear them when they accept orders for deployment to a places like Bosnia, Macedonia, or Kosovo to serve on a contracting team.

"They're also put through what we call the Basic Contingency Operations Training course that

exposes them to a typical field environment in the Army," Harrington said.

Joined by their military counterparts, civilian personnel are sent to Fort McCoy, Wis., for 10 days of training to prepare them to live and work safely in an overseas contingency environment. The course replicates some of the conditions personnel can expect to encounter during tours of duty in hostile overseas areas.

They're taught survival skills including first aid, weapons familiarization, field hygiene, and use of protective equipment, such as decontamination kits, protective masks, and chemical protection suits.

"The training focuses on the safety of non-combatants who accompany the forces into hostile areas -- DoD civilians and DoD contractors," Harrington explained. "It's just like soldier training."

The training is voluntary for civilians and serves as a refresher course for active and Reserve military personnel who have not been assigned to an austere field environment in a while.

DCMA supports mainly military customers, but it also works on behalf of some federal agencies. For example, DCMA does quality assurance management for NASA. "We are there for NASA to assure the quality of the solid rocket boosters for space shuttles and to oversee the production and assembly of the international space station," Harrington said.

He calls DCMA's employees "unsung heroes" because they're the people who ensure that warfighters get what they need when they need it.

Editor's Note: This information is in the public domain at <http://www.defenselink.news>.



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Air Force (Acquisition)

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Air Force Materiel Command (AFMC) Contracting Laboratory's Federal Acquisition Regulation (FAR) Site

<http://farsite.hill.af.mil/>

FAR search tool; *Commerce Business Daily* Announcements (CBDNet); *Federal Register*; Electronic Forms Library.

Defense Systems Management College (DSMC)

<http://www.dsmc.dau.mil>

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Defense Modeling and Simulation Office (DMSO)

<http://www.dmsomil>

DoD Modeling and Simulation Master Plan; document library; events; services.

Defense Technical Information Center (DTIC)

<http://www.dtic.mil/>

Technical reports; products and services; registration with DTIC; special programs; acronyms; DTIC FAQs.

Defense Electronic Business Program Office (DEBPO)

<http://www.defenselink.mil/acq/ebusiness/>

Policy; newsletters; Central Contractor Registration; Assistance Centers; DoD Electronic Commerce Partners.

Open Systems Joint Task Force

<http://www.acq.osd.mil/osjtf>

Open Systems education and training opportunities; studies and assessments; projects, initiatives and plans; reference library.

Government Education and Training Network (GETN) (For Department of Defense Only)

<http://atn.afit.af.mil>

Schedule of distance learning opportunities.

Government-Industry Data Exchange Program (GIDEP)

<http://www.gidep.corona.navy.mil>

Federally funded co-op of government and industry participants that provides an electronic forum to exchange technical information essential during research, design, development, production, and operational phases of the life cycle of systems, facilities, and equipment.



ACQUISITION & LOGISTICS EXCELLENCE

An Internet Listing Tailored to the Professional Acquisition Workforce

Surfing the Net

FEDERAL CIVILIAN AGENCIES

Acquisition Reform Network (ARNET)

<http://www.arnet.gov/>

Virtual library; federal acquisition and procurement opportunities; best practices; electronic forums; business opportunities; acquisition training; Excluded Parties List.

Federal Acquisition Institute (FAI)

<http://www.faionline.com>

Virtual campus for learning opportunities as well as information access and performance support.

Federal Acquisition Jump Station

<http://nais.nasa.gov/fedproc/home.html>

Procurement and acquisition servers by contracting activity; CBDNet; Reference Library.

Federal Aviation Administration (FAA)

<http://www.asu.faa.gov>

Online policy and guidance for all aspects of the acquisition process.

General Accounting Office (GAO)

<http://www.gao.gov>

Access to GAO reports, policy and guidance, and FAQs.

General Services Administration (GSA)

<http://www.gsa.gov>

Online shopping for commercial items to support government interests.

Library of Congress

<http://www.loc.gov>

Research services; Congress at Work; Copyright Office; FAQs.

National Technical Information Service (NTIS)

<http://chaos.fedworld.gov/onow/>

Online service for purchasing technical reports, computer products, videotapes, audiocassettes, and more!

Small Business Administration (SBA)

<http://www.SBAonline.SBA.gov>

Communications network for small businesses.

U.S. Coast Guard

<http://www.uscg.mil>

News and current events; services; points of contact; FAQs.

TOPICAL LISTINGS

MANPRINT (Manpower and Personnel Integration)

<http://www.MANPRINT.army.mil>

Points of contact for program managers; relevant regulations; policy letters from the Army Acquisition Executive; as well as briefings on the MANPRINT program.

DoD Specifications and Standards Home Page

<http://www.dsp.dla.mil>

All about DoD standardization; key Points of Contact; FAQs; Military Specifications and Standards Reform; newsletters; training; nongovernment standards; links to related sites.

Joint Advanced Distributed Simulation (JADS) Joint Test Force

<http://www.jads.abq.com>

JADS is a one-stop shop for complete information on distributed simulation and its applicability to test and evaluation and acquisition.

Risk Management

http://www.acq.osd.mil/io/se/risk_management/index.htm

Risk policies and procedures; risk tools and products; events and ongoing efforts; related papers, speeches, publications, and Web sites.

Earned Value Management

<http://www.acq.osd.mil/pm>

Implementation of Earned Value Management; latest policy changes; standards; international developments; active notebook.

Fedworld Information

<http://www.fedworld.gov>

Comprehensive central access point for searching, locating, ordering, and acquiring government and business information.

GSA Federal Supply Service

<http://pub.fss.gsa.gov>

The No. 1 resource for the latest services and products industry has to offer.

Commerce Business Daily

<http://www.govcon.com/>

Access to current and back issues with search capabilities; business opportunities; interactive yellow pages.

INDUSTRY AND PROFESSIONAL ORGANIZATIONS

DSMC Alumni Association

<http://www.dsmcaa.org>

Acquisition tools and resources; government and related links; career opportunities; member forums.

Electronic Industries Alliance (EIA)

<http://www.eia.org>

Government Relations Department; includes links to issue councils; market research assistance.

National Contract Management Association (NCMA)

<http://www.ncmahq.org>

"What's New in Contracting?"; educational products catalog; career center.

National Defense Industrial Association (NDIA)

<http://www.ndia.org>

Association news; events; government policy; *National Defense* magazine.

International Society of Logistics

<http://www.sole.org/>

Online desk references that link to logistics problem-solving advice; Certified Professional Logistician certification.

Computer Assisted Technology Transfer (CATT) Program

<http://catt.bus.okstate.edu>

Collaborative effort between government, industry, and academia. Learn about CATT and how to participate.

Software Program Managers Network

<http://www.spmn.com>

Site supports project managers, software practitioners, and government contractors. Contains publications on highly effective software development best practices.

Association of Old Crows (AOC)

<http://www.crows.org>

Association news; conventions, conferences and courses; *Journal of Electronic Defense* magazine.

If you would like to add your acquisition or acquisition and logistics excellence-related Web site to this list, please put your request in writing and fax it to Sylvia Gasior-Nelson, (703) 805-2917. DAU encourages the reciprocal linking of its Home Page to other interested agencies. Contact the DAU Webmaster at dau_webmaster@acq.osd.mil.





“This has been a difficult time for all of AT&L, and especially for our families and friends. But we must stay focused, committed to jobs, and more determined than ever to provide our military forces with the finest equipment, appropriately supported, now and in the future. As we look to the future, we will be making improvements to our processes and procedures to respond to such conditions, in the hope that we will never have to exercise them again. Thanks for your support and commitment.”

E. C. “Pete” Aldridge, Jr., USD(AT&L)



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